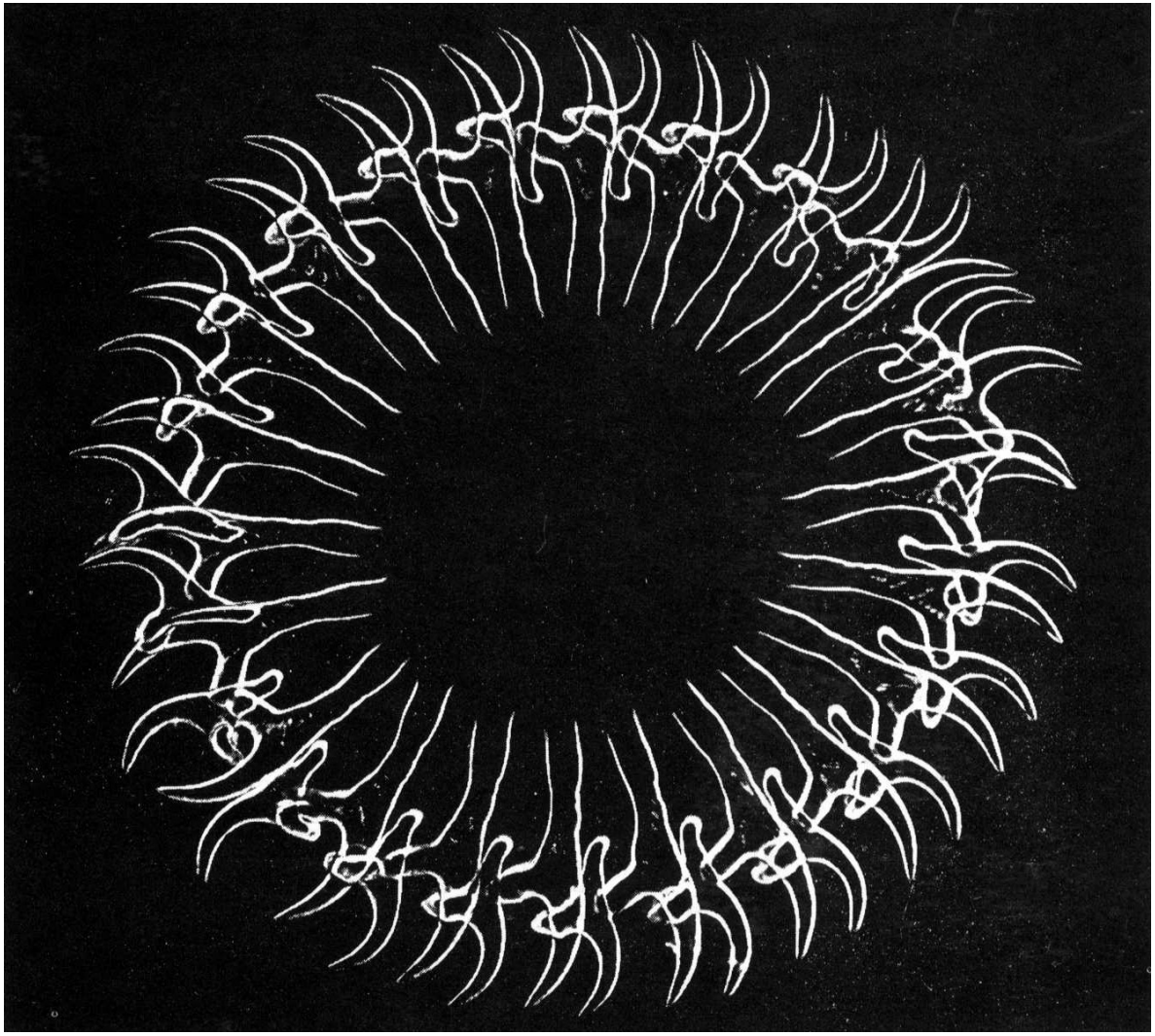
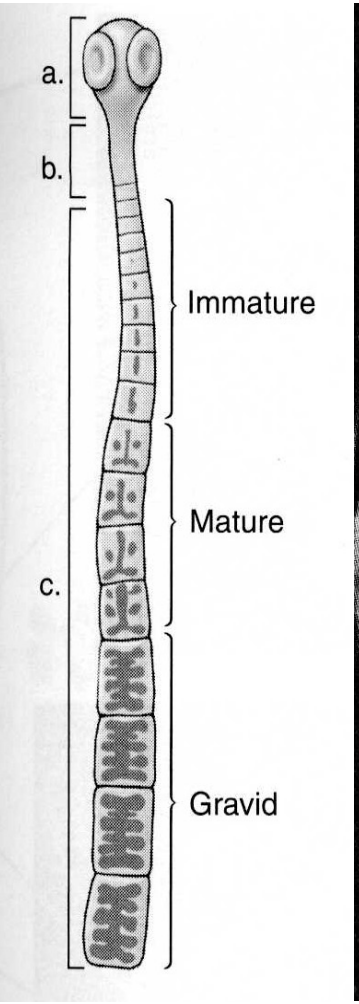
Tasemnice I

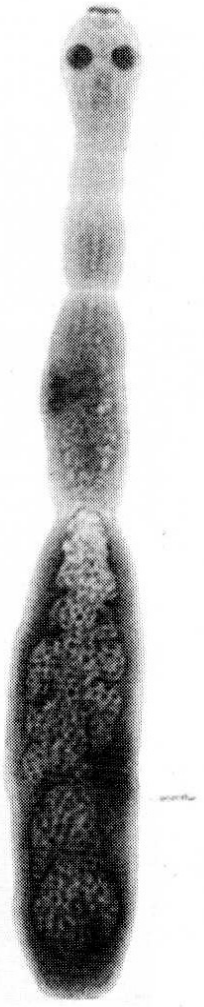


Tasemnice - charakteristika

- Výhradně parazitická skupina
- Absence střeva
- Larvy s embryonálními háčky
  - 10 lycofóra - Cestodaria
  - 6 hexacanth – Eucestoda
- Medicínsky a veterinárně významné
- Popsáno přes 4000 druhů – nejvíce řádů u ryb
- Nejpočetnější řád – Cyclophyllidea – ptáci a savci

Scolex, krček, strobila

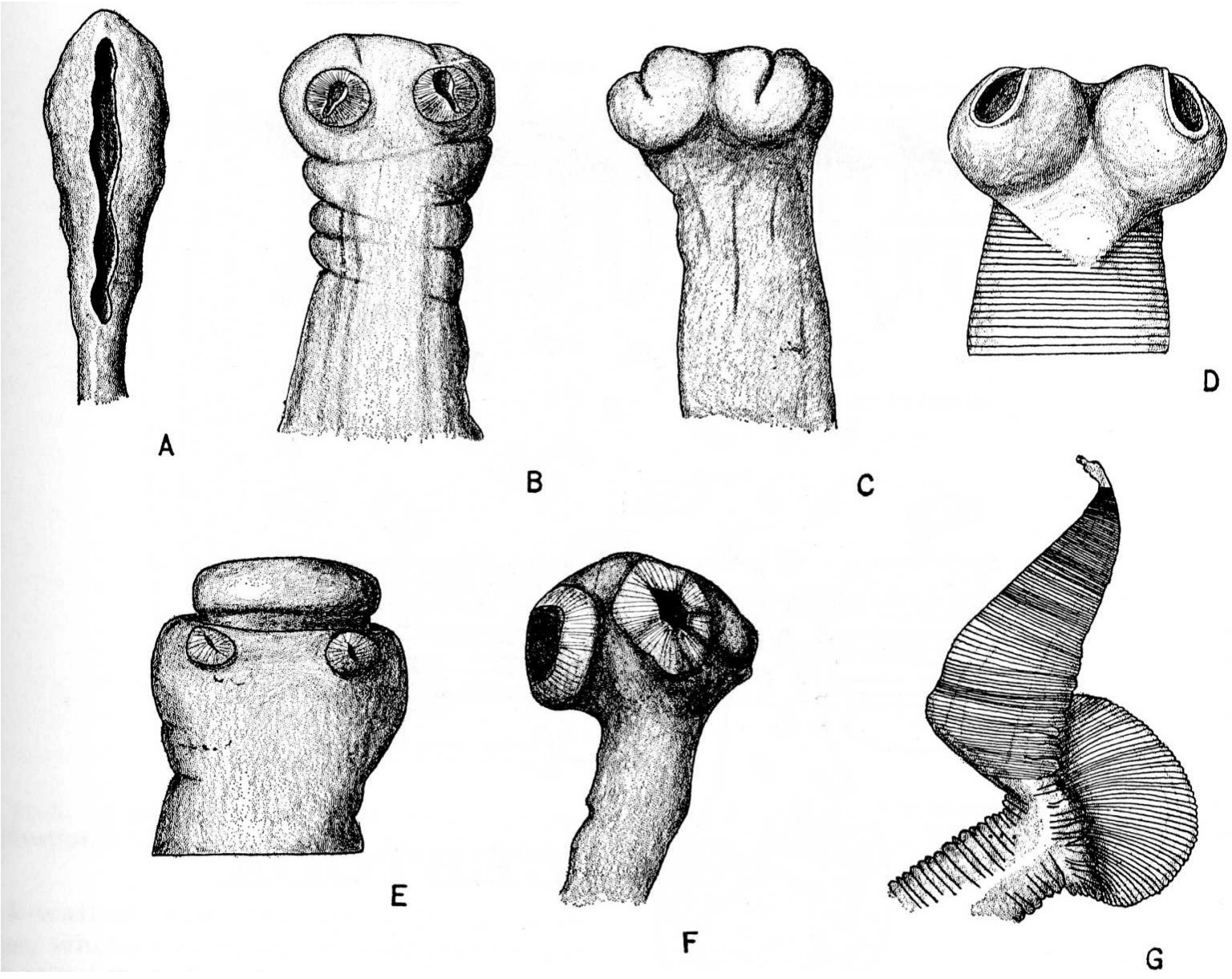


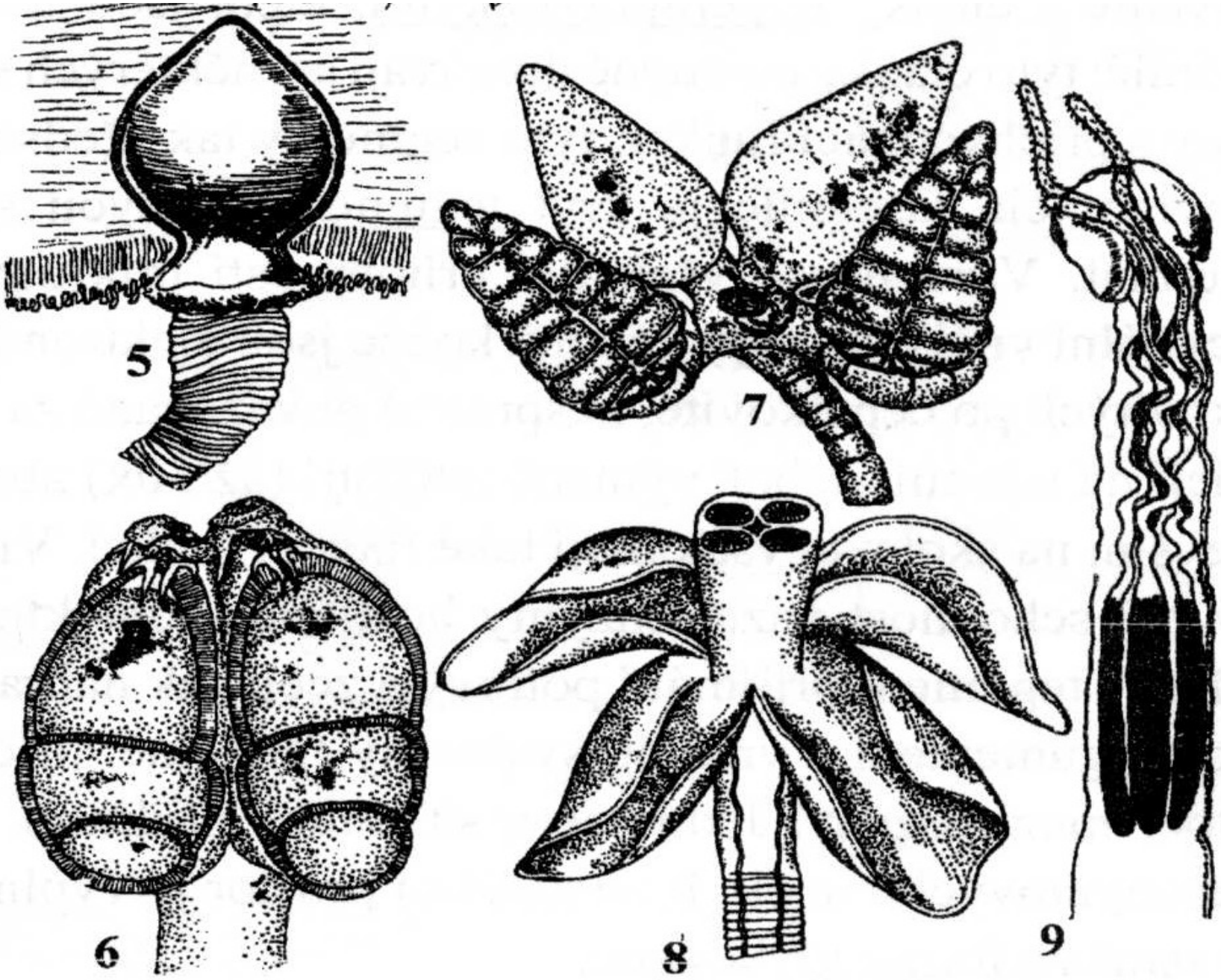


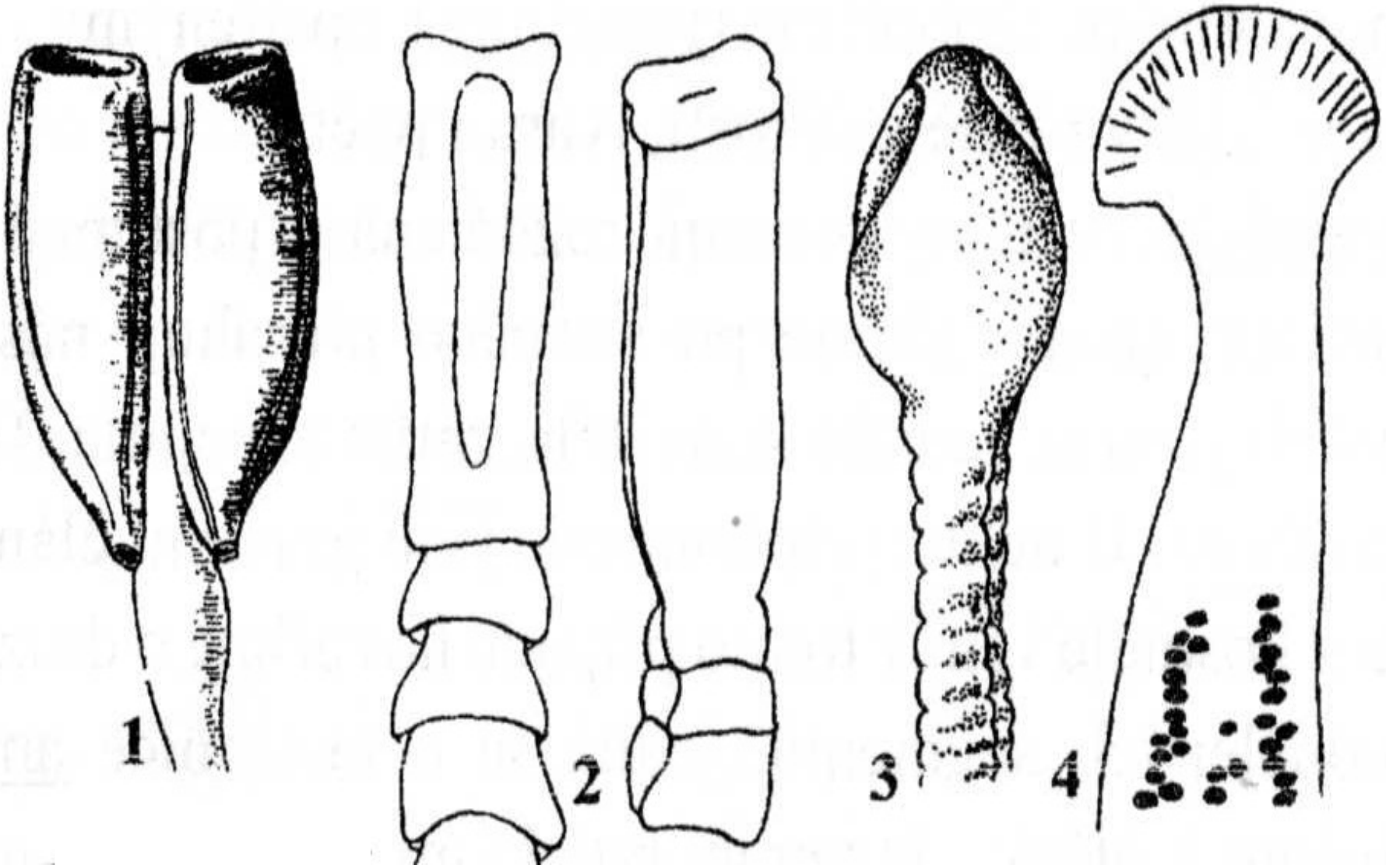
Tasemnice - morfologie

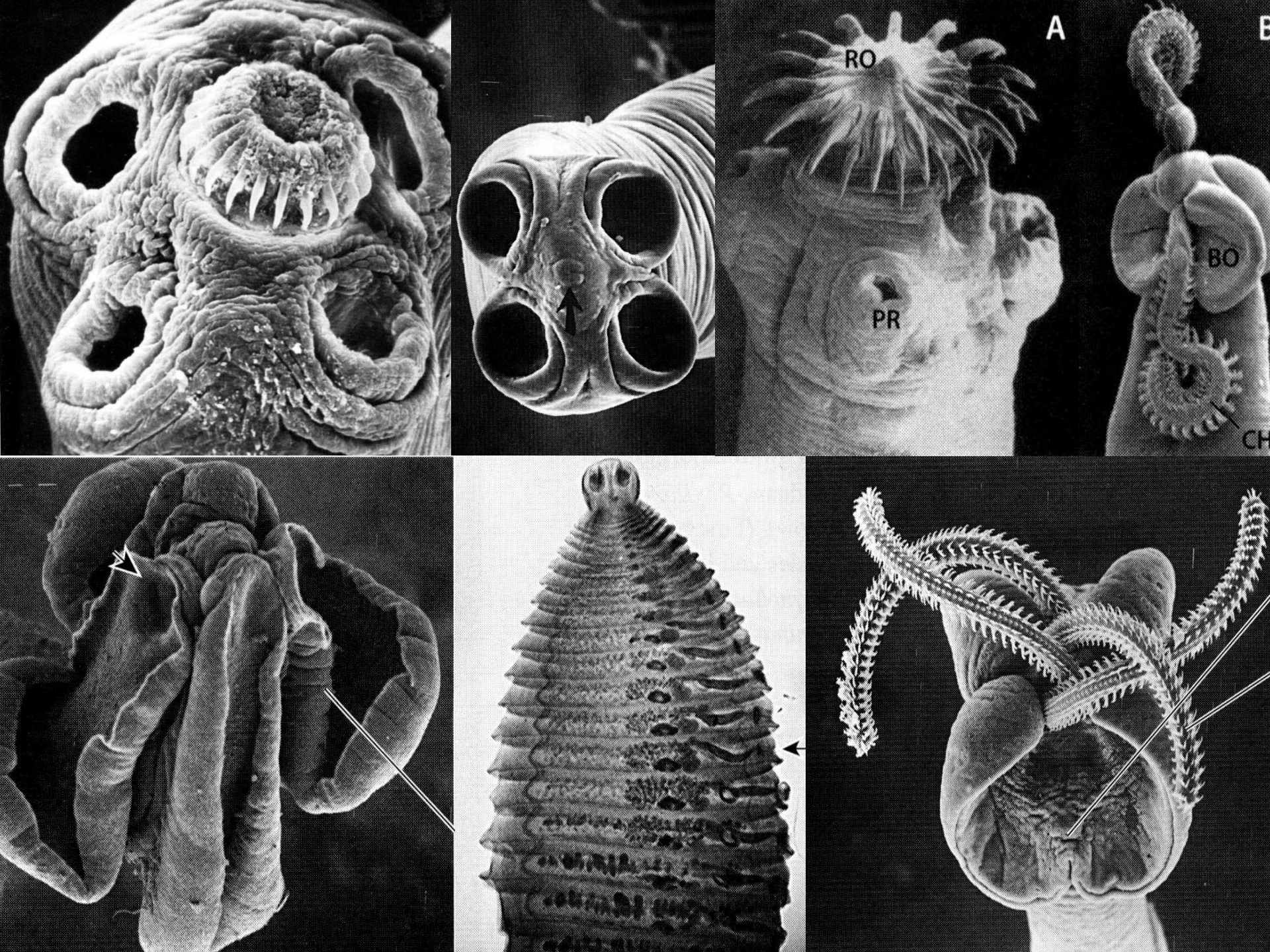
- Hlavička – scolex – přichycovací orgán
- Strobila – proglotidy (segmenty)
- Přichycovací orgány – 5 základních typů:
  - Mělké zářezy a rýhy – Caryophyllidea
  - Štěrbiny – bothrie – Pseudophyllidea
  - Svalnaté bothridie – Tetraphylidea
  - Chapadélka – tentakule – Trypanorhyncha
  - Svalnaté přísavky - Cyclophyllidea

Typy scolexů tasemnic




5
7
6
8
9


1
2
3
4


A
RO
PR
BO
CH

Scolexy různých řádů tasemnic

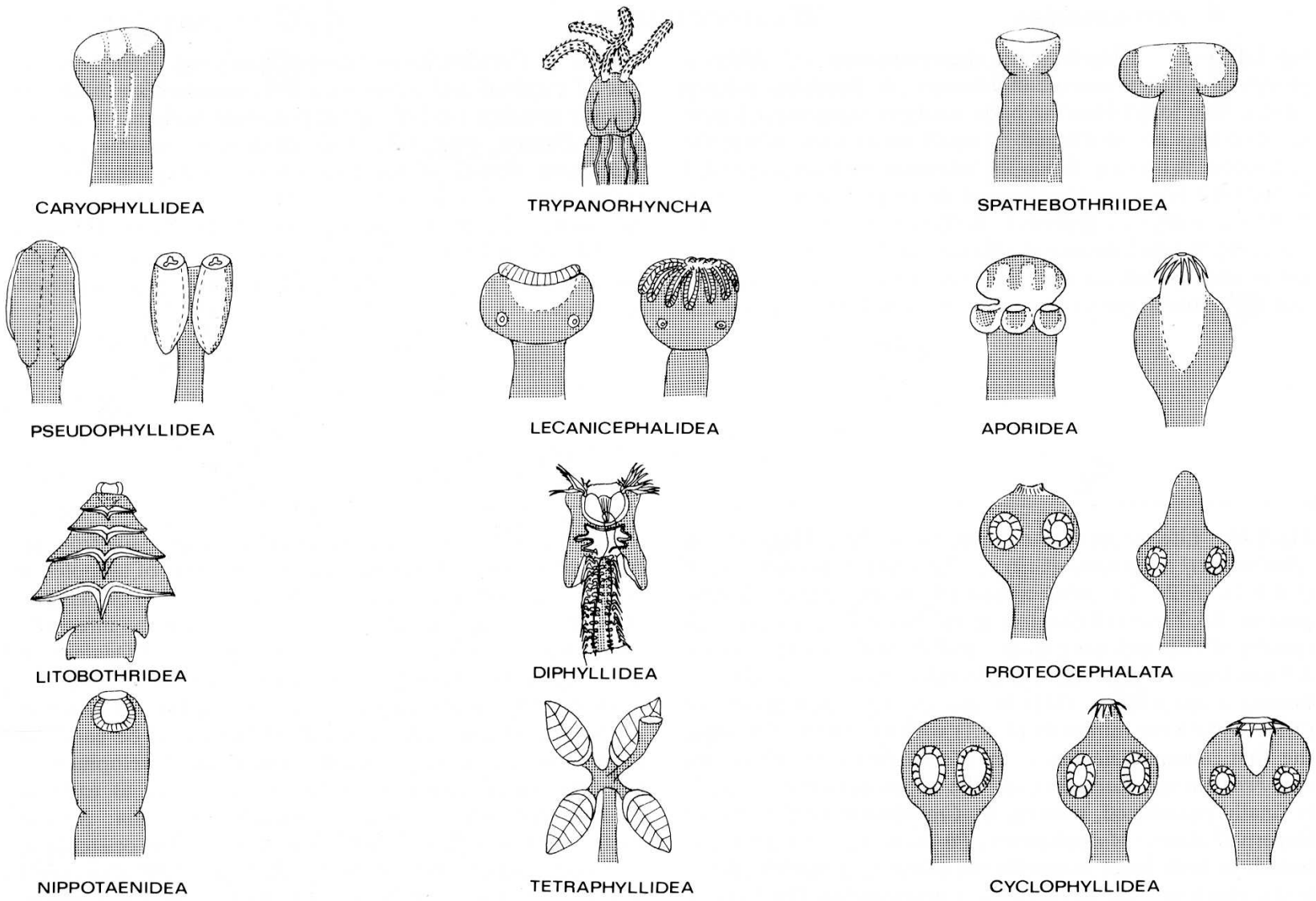
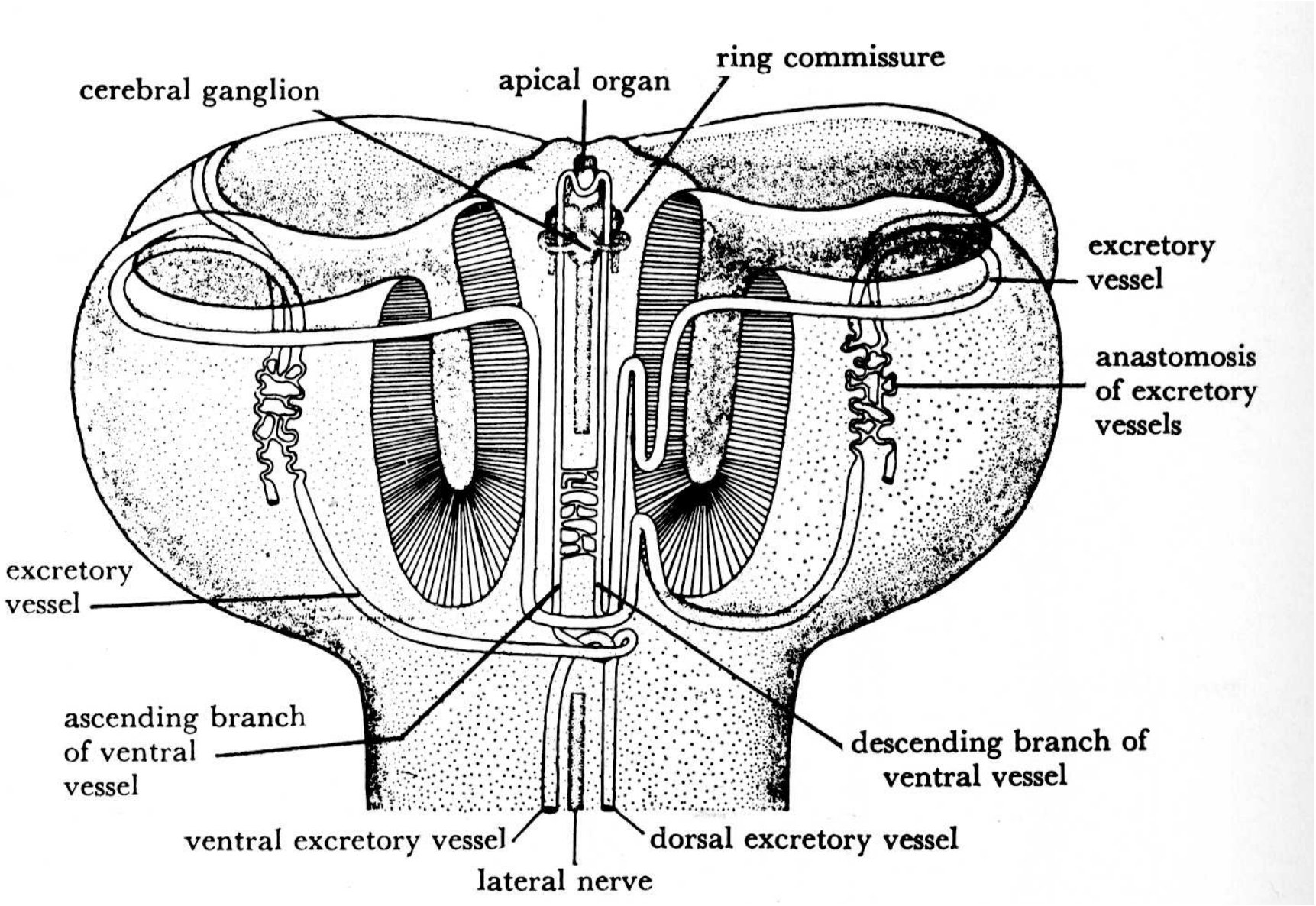


Fig. 1.48. Diagrammatic representation of scolices in different orders of tapeworm

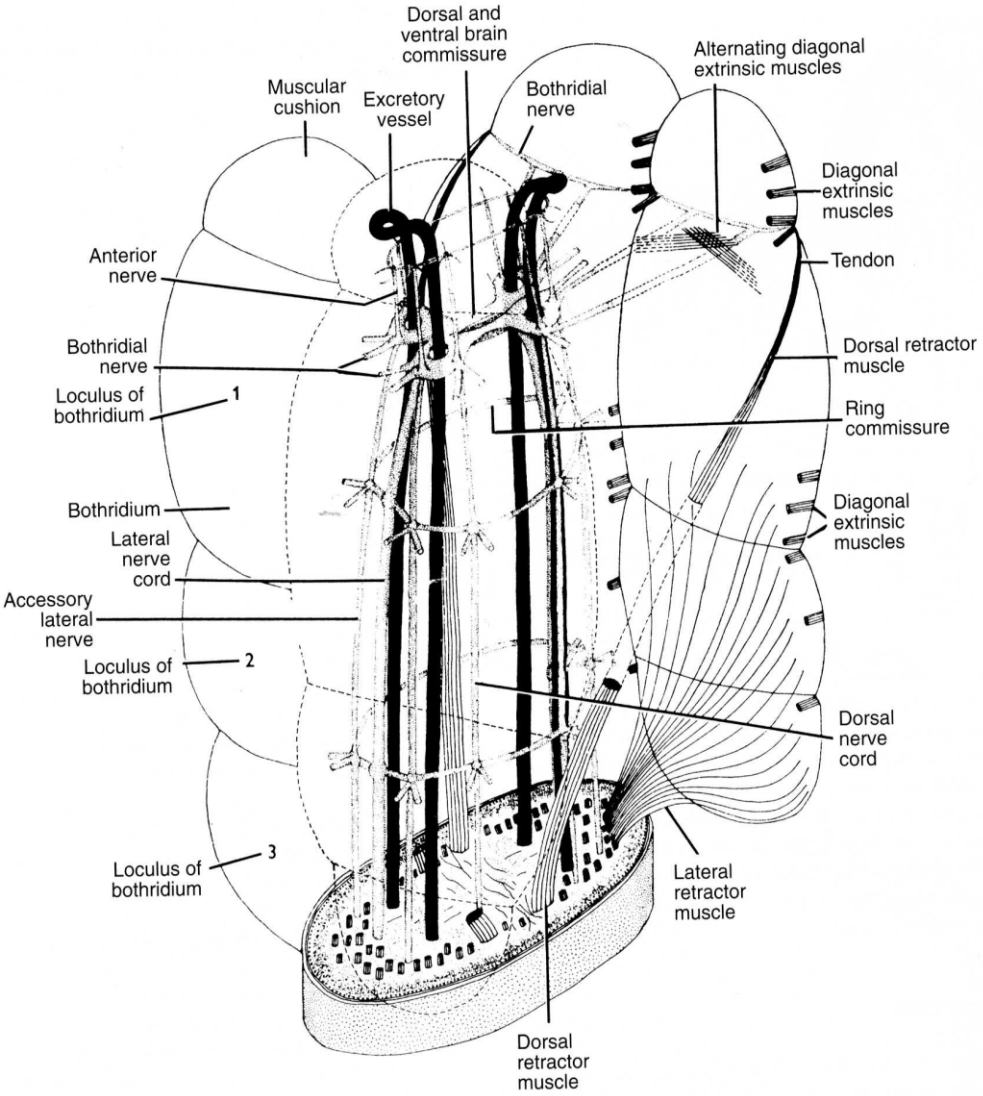
Tasemnice - anatomie

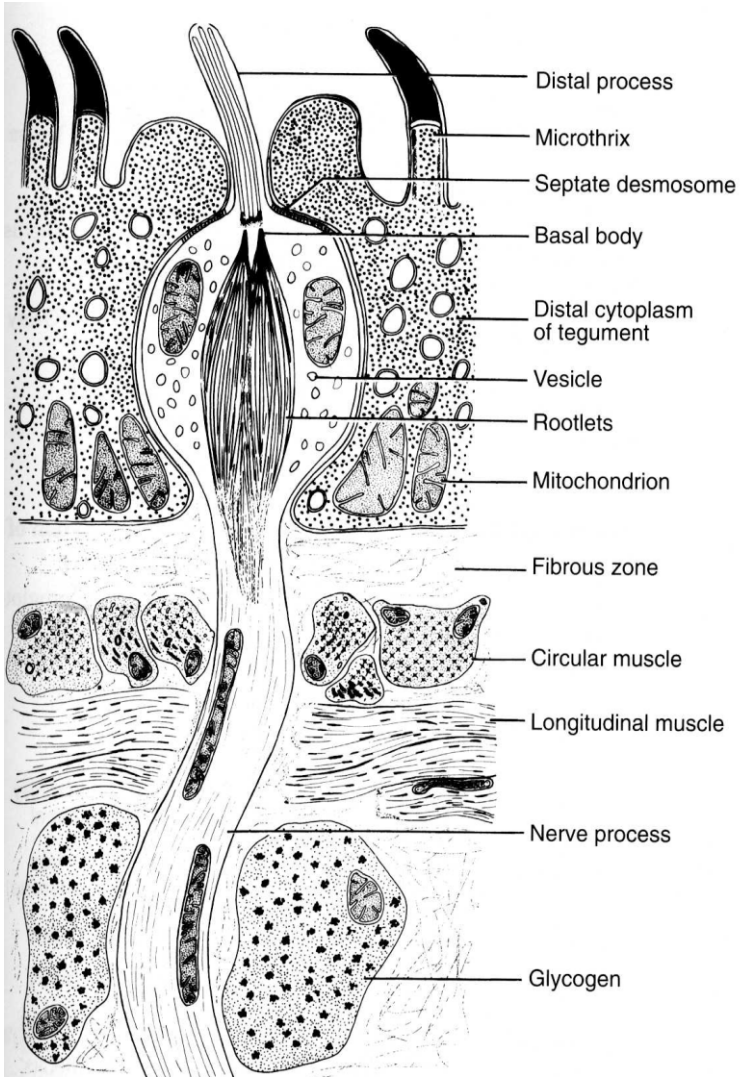
- Scolex – krček - germinativní zóna
- Strobila – proglotidy – články:
  - Apolytické články – odškrcovány články s vajíčky
  - Anapolytické články – vajíčka jsou oddělována s neodělených článků
- Tegument – povrch těla
- Parenchym - pojivová tkáň
- Svalovina (tři vrstvy)
- Nervová soustava
- Exkreční soustava – protonefridie
- Pohlavní soustava – hermafroditi
- Příjem potravy – povrchem těla

Schéma scolexu tasemnice

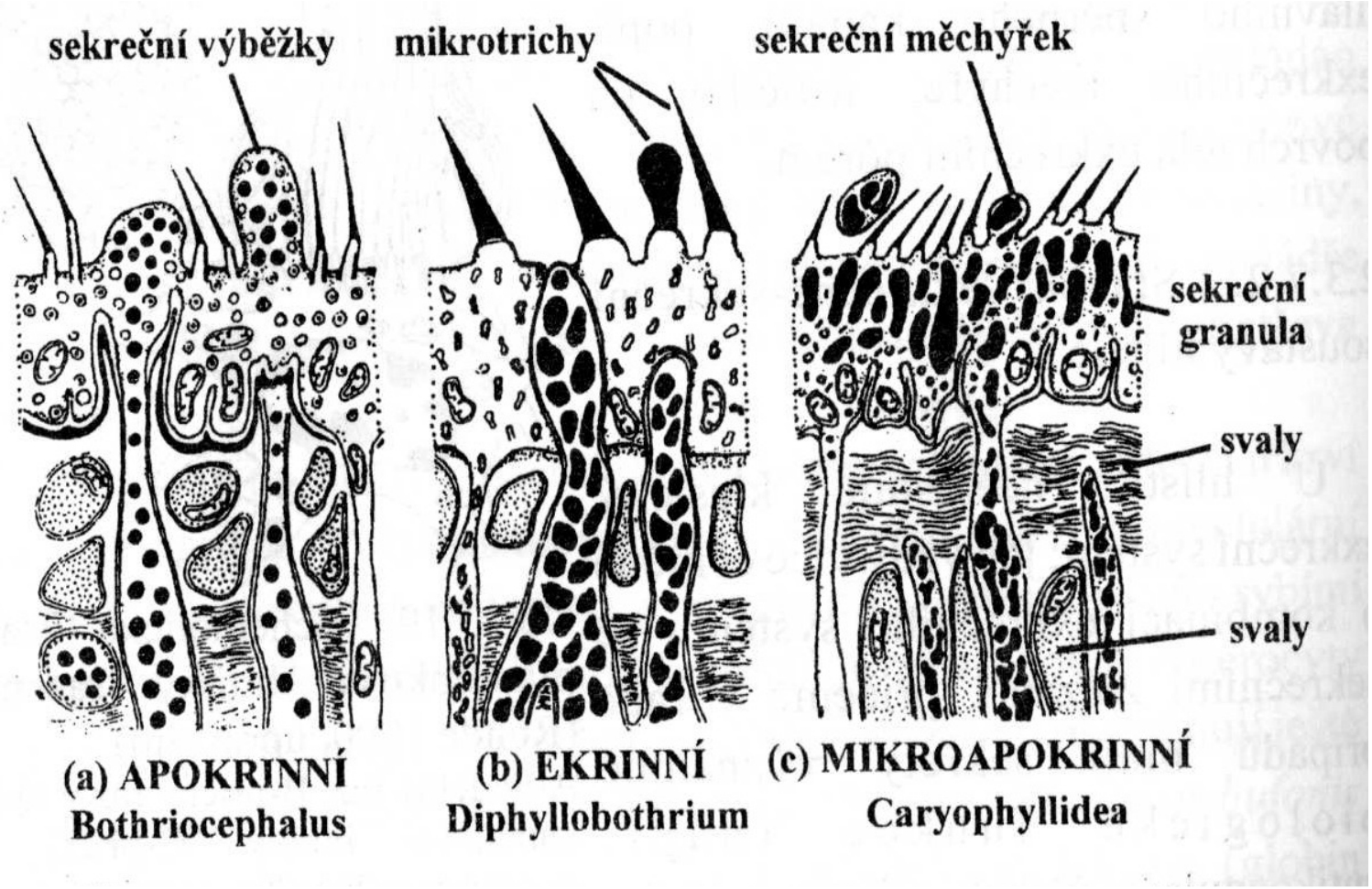


Smyslové orgány na scolexu

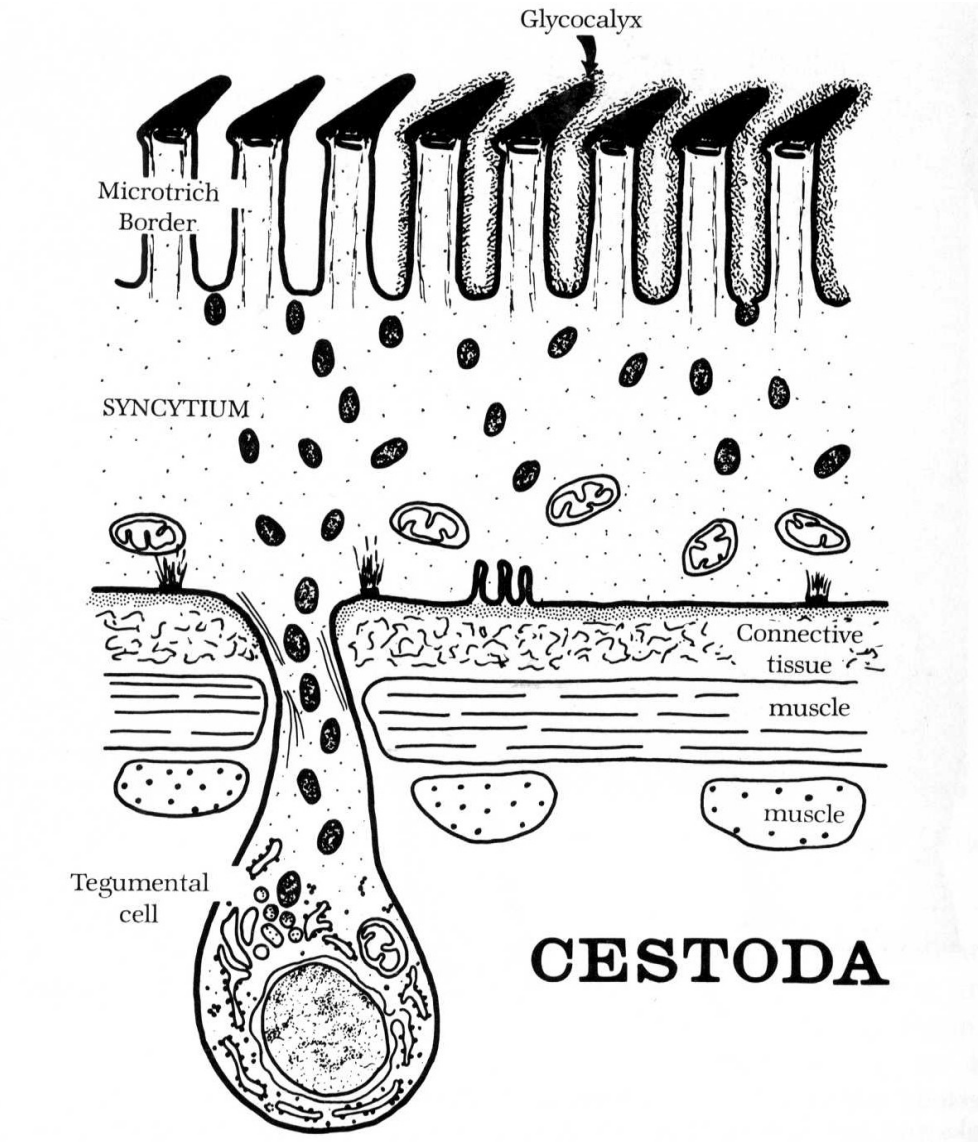




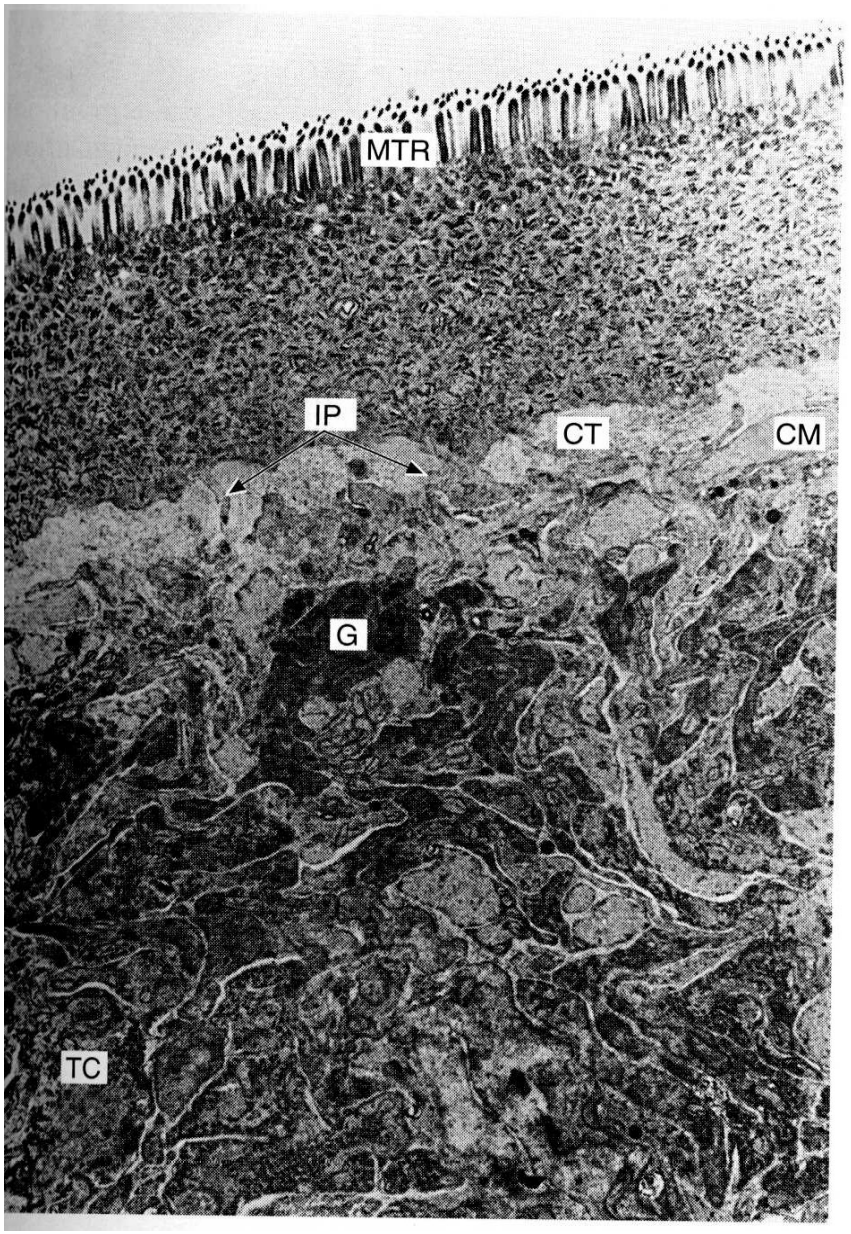
Tři typy sekrece žlaz na scolexu

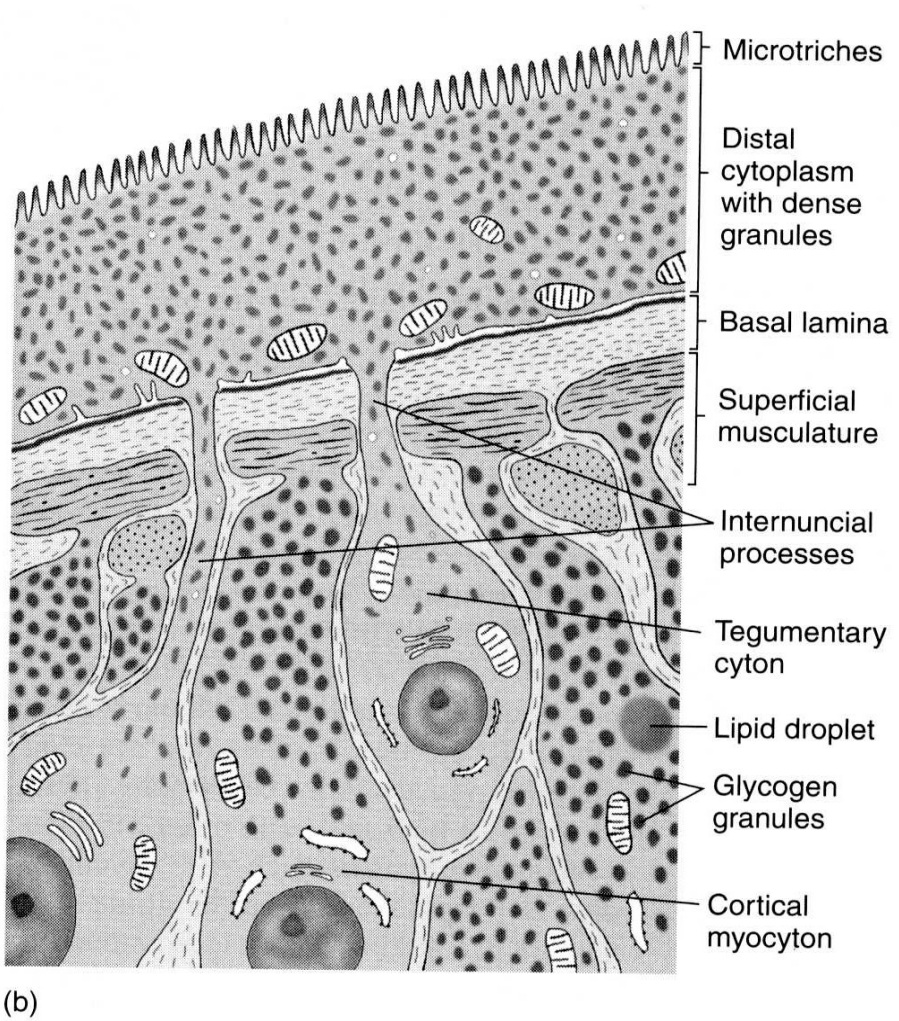


Tegument – povrch těla



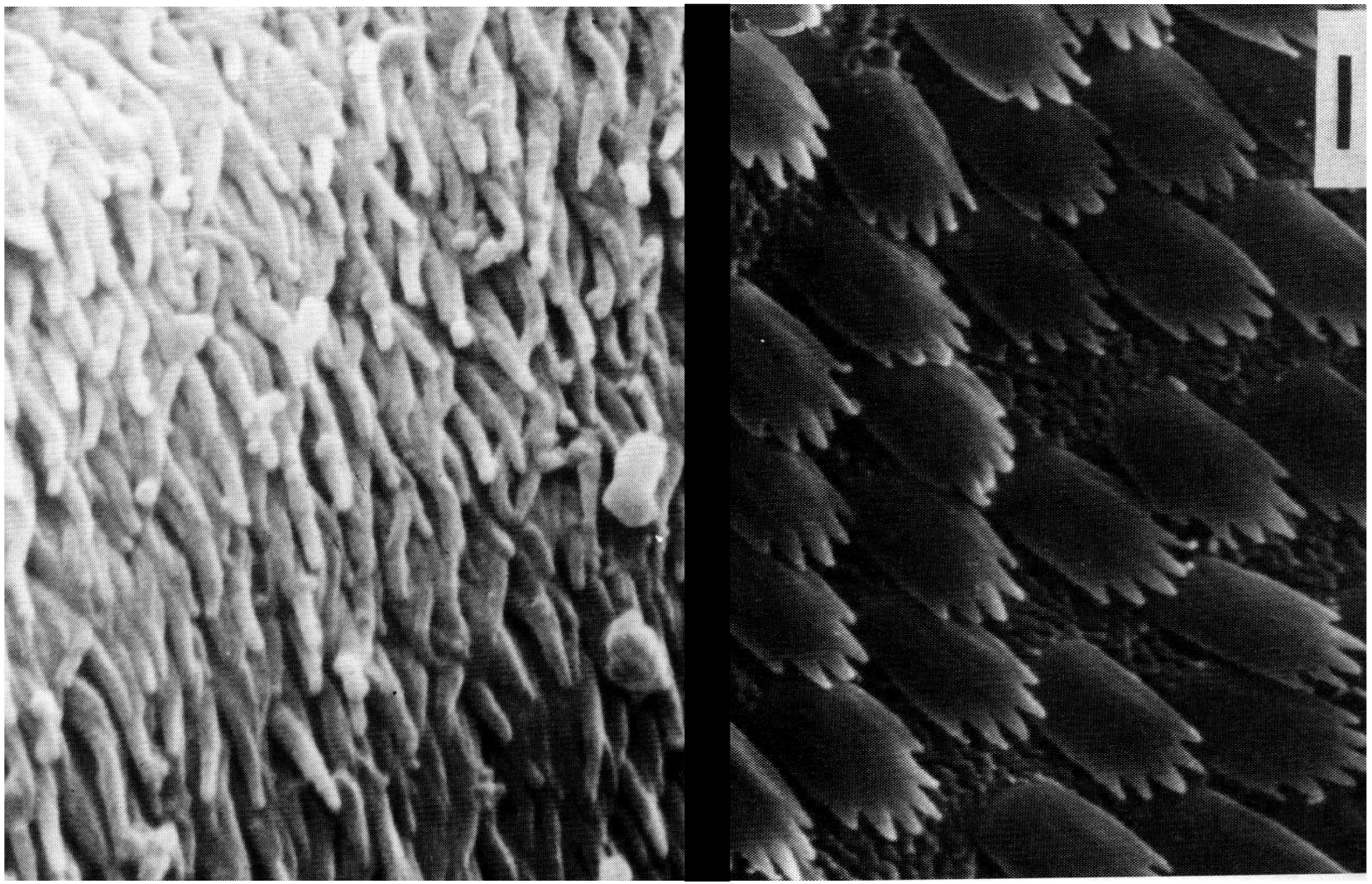
Tegument – povrch těla



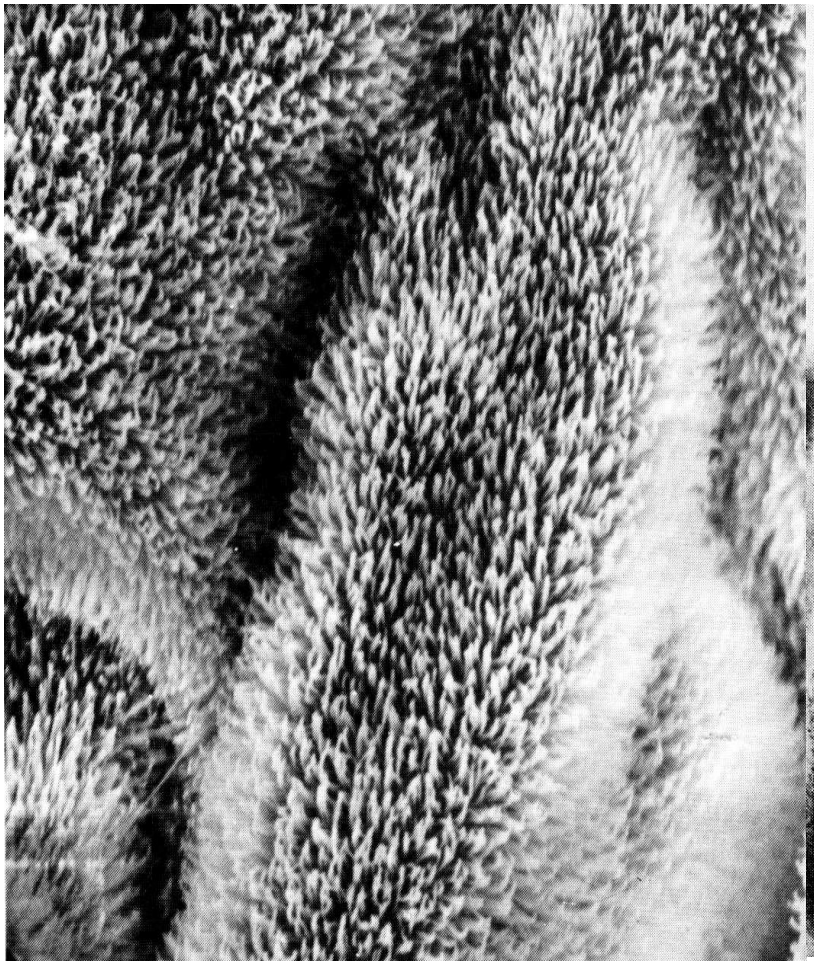


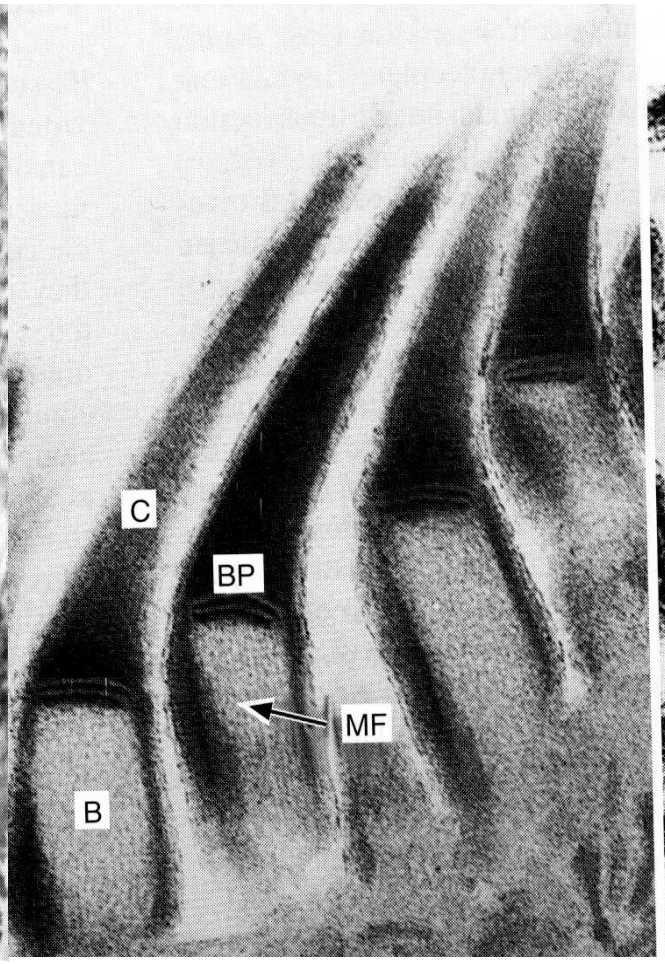
(b)

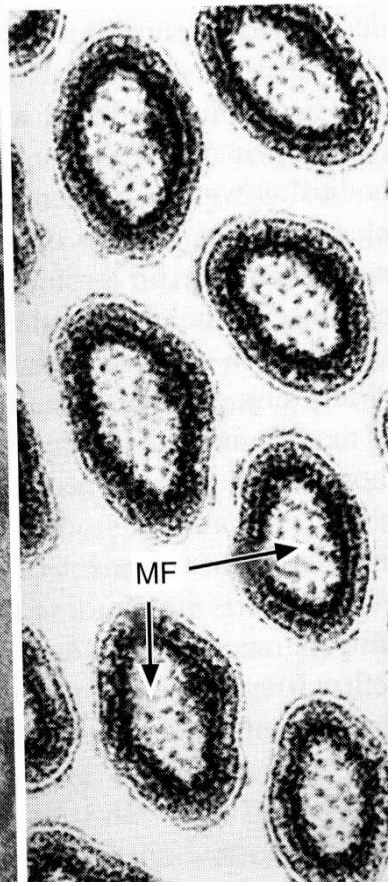
Mikrotrichy na povrchu těla



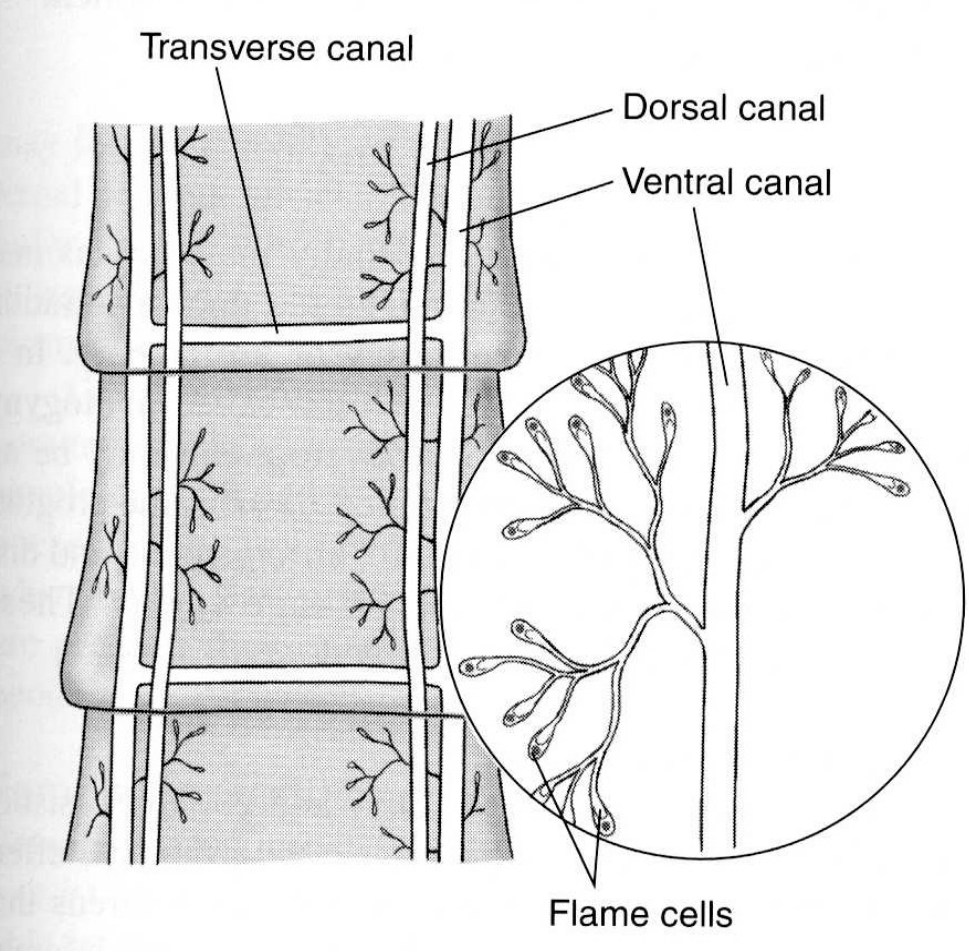
Mikrotrichy

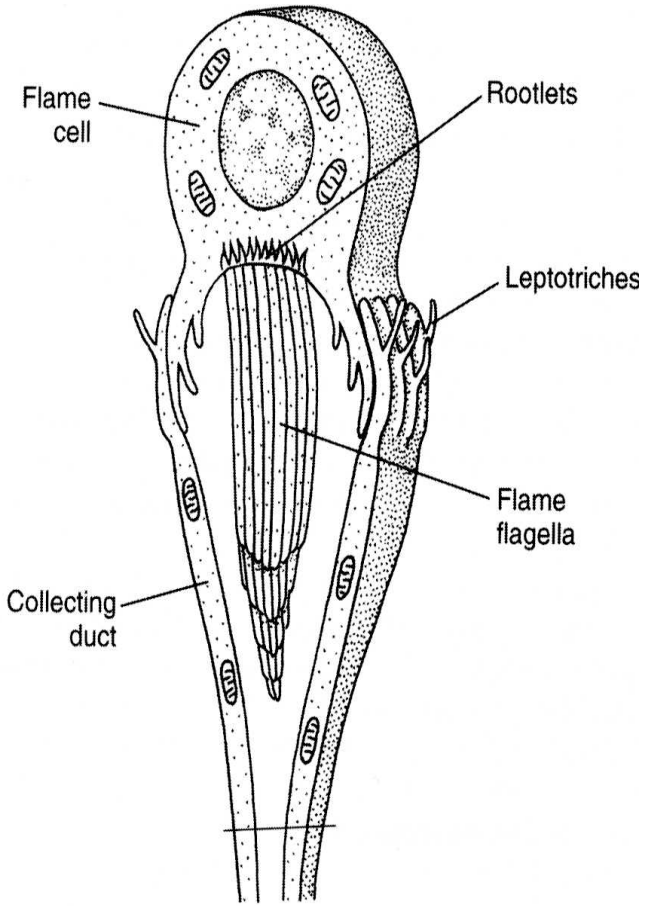






Exkreční soustava tasemnice





Anatomie strobily tasemnice

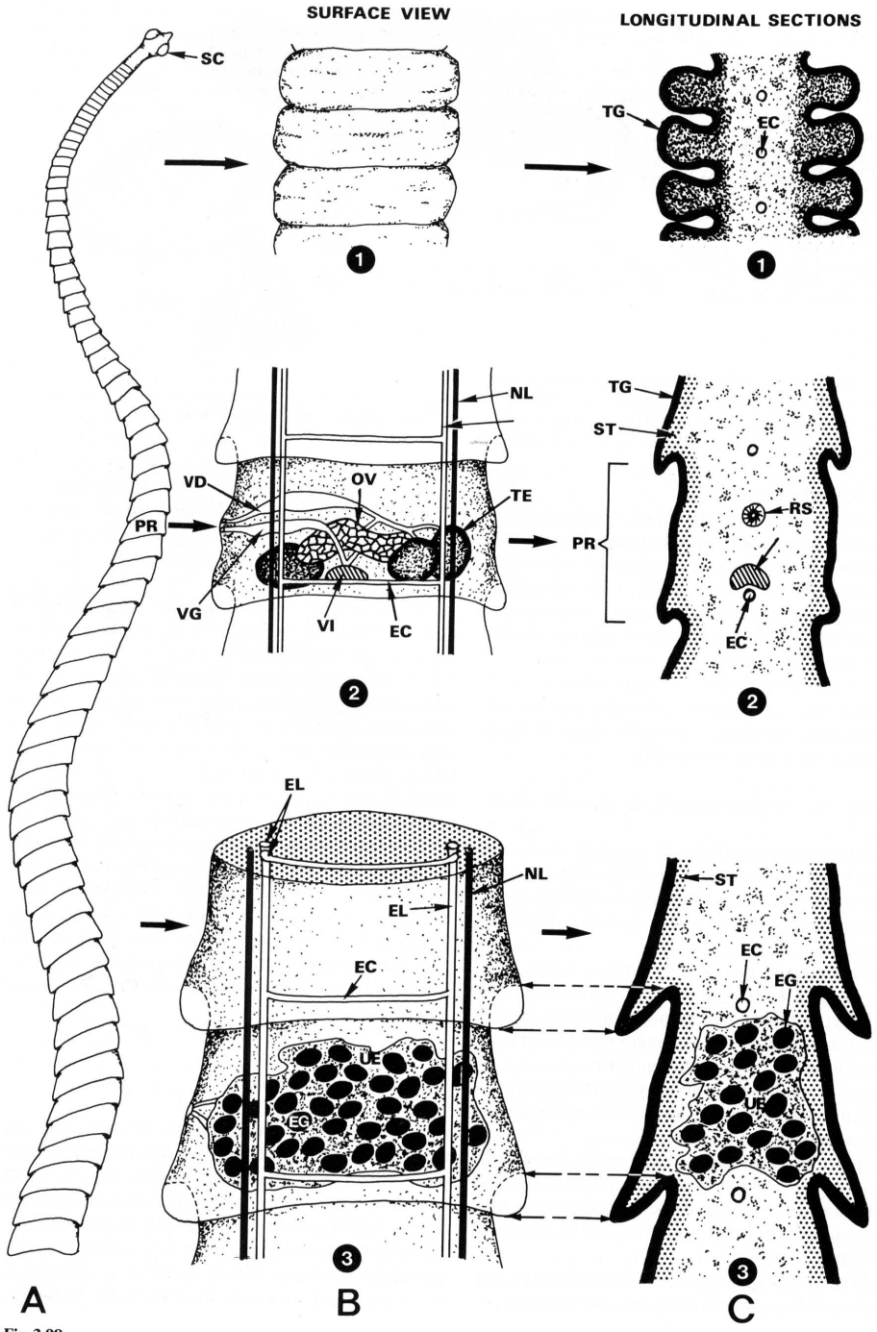
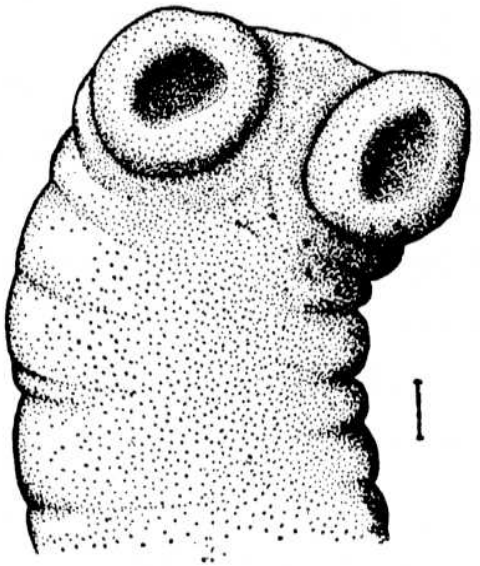


Fig. 3.98



Tasemnice – pohlavní soustava

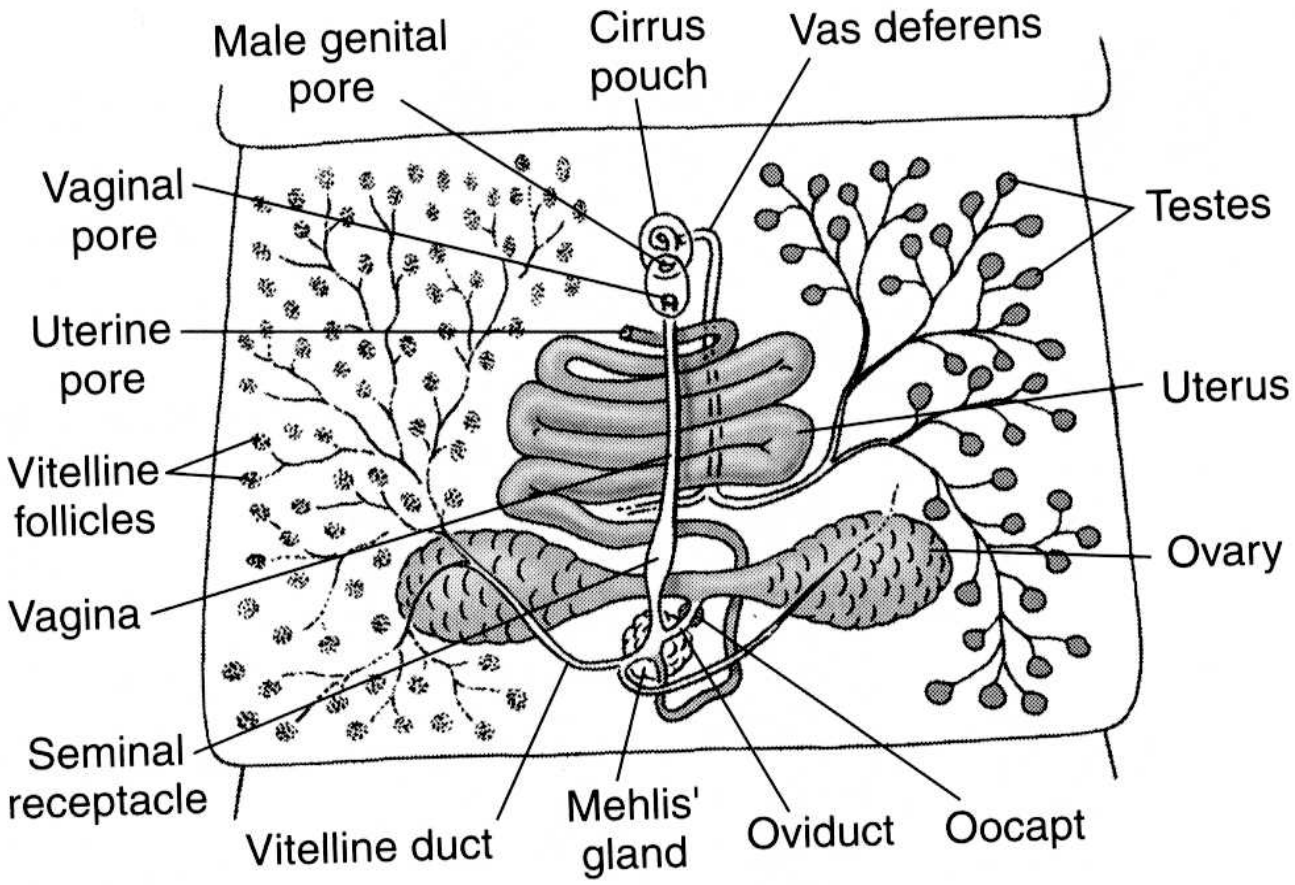
Samčí:

- Varlata – testes
- Vasa efferentia
- Vas deferens
- Vesicula seminalis
- Ductus ejaculatorius
- Cirrus a cirrový váček

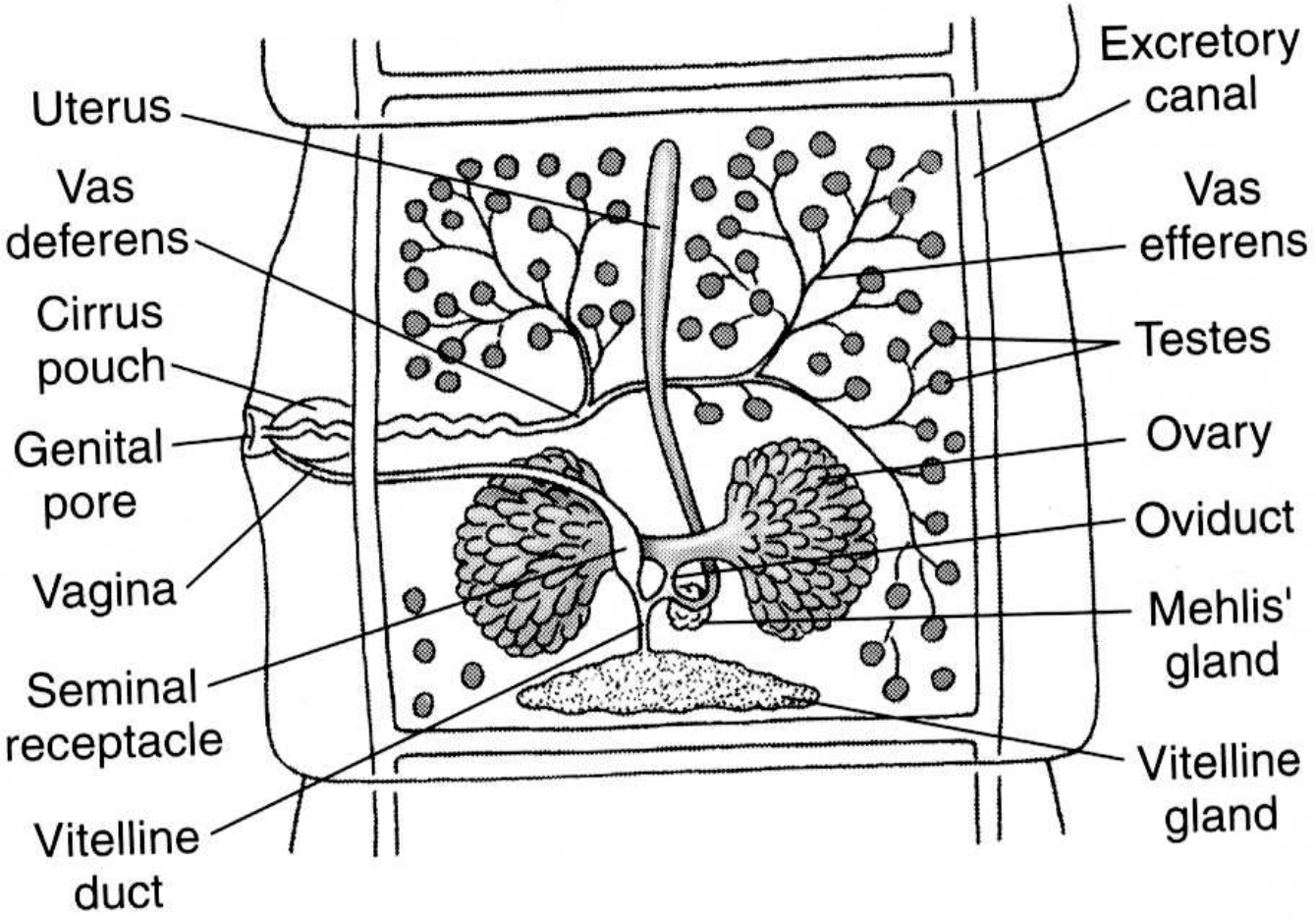
Samičí:

- Vaječník – ovarium
- Vejcovod – ovidukt
- Receptaculum seminis
- Žloutkové trsy – vitelaria
- Ootyp
- Mehlisovy žlázy
- Děloha – uterus
- Vagina

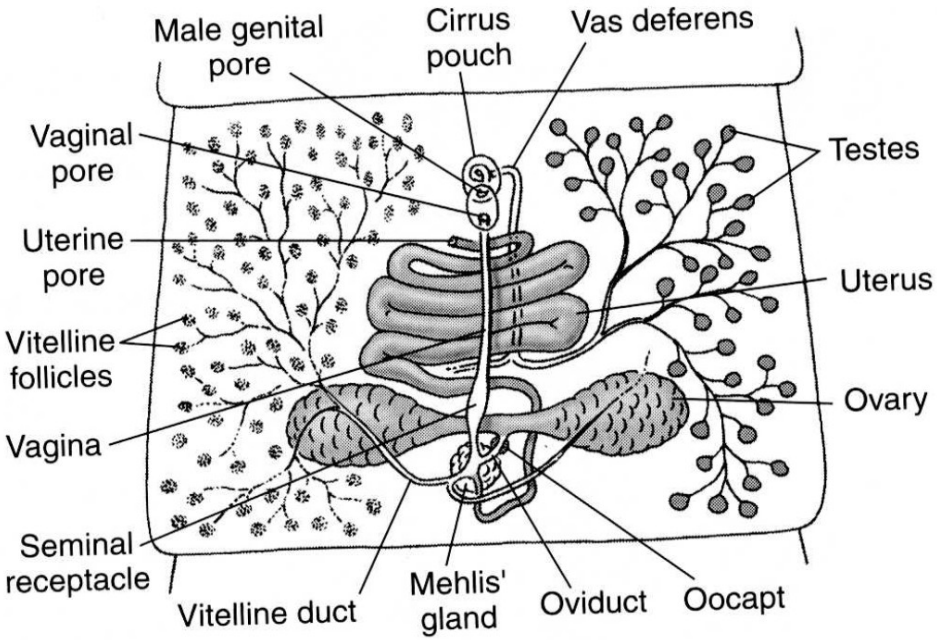
Pohlavní soustava akvatické tasemnice

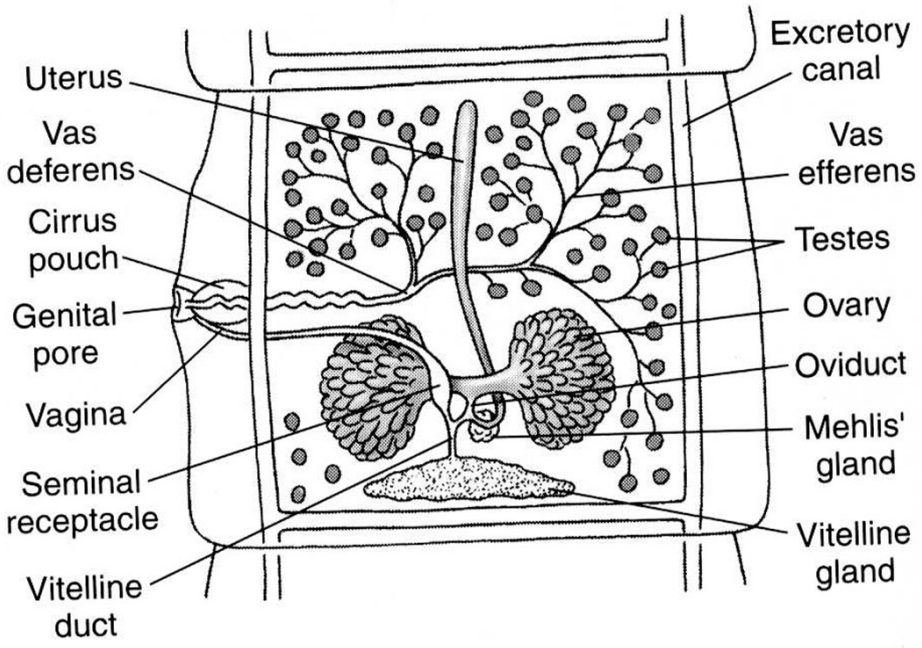


Pohlavní soustava terestrické tasemnice

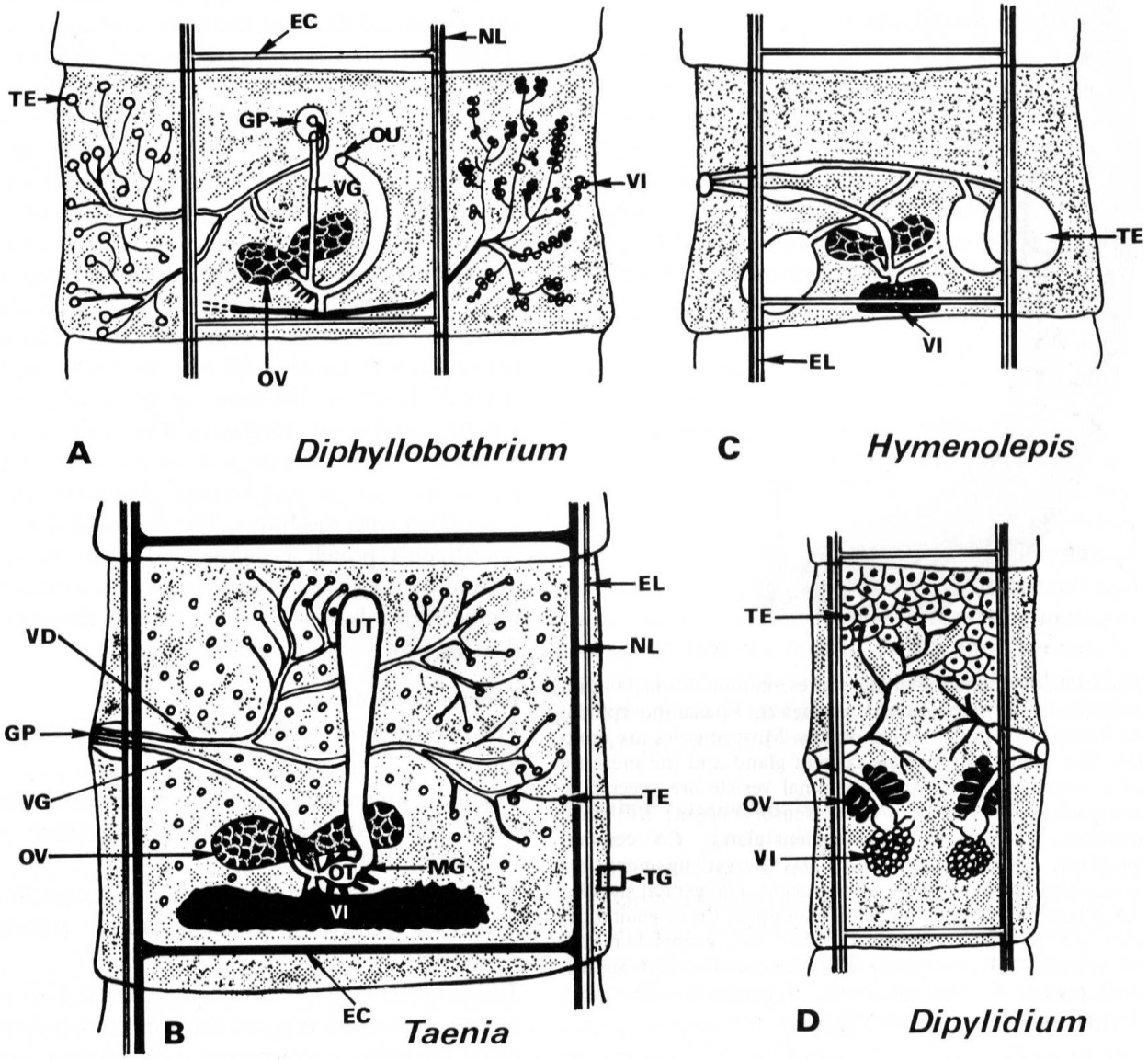


V čem spočívá rozdíl ?

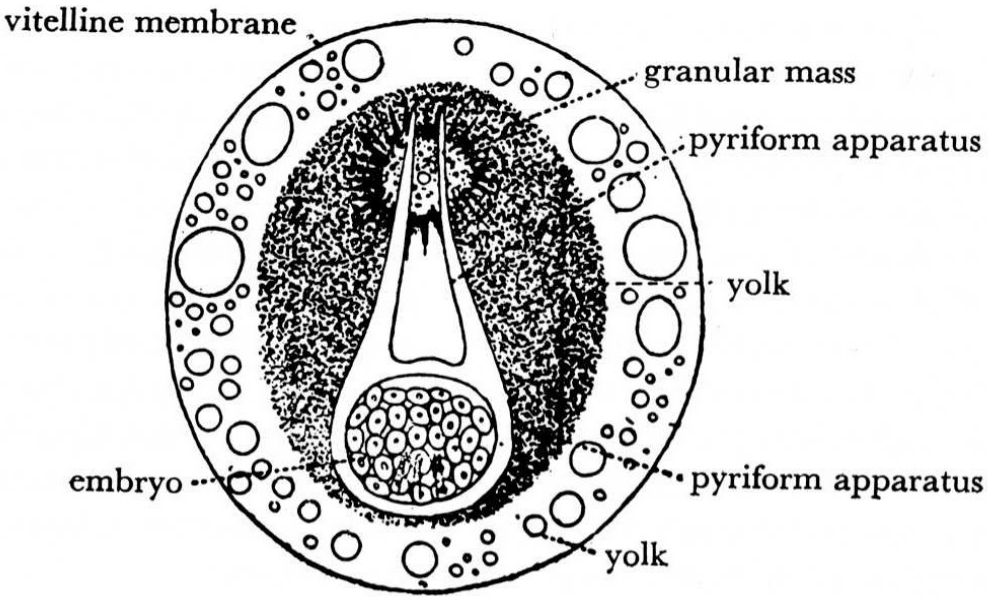


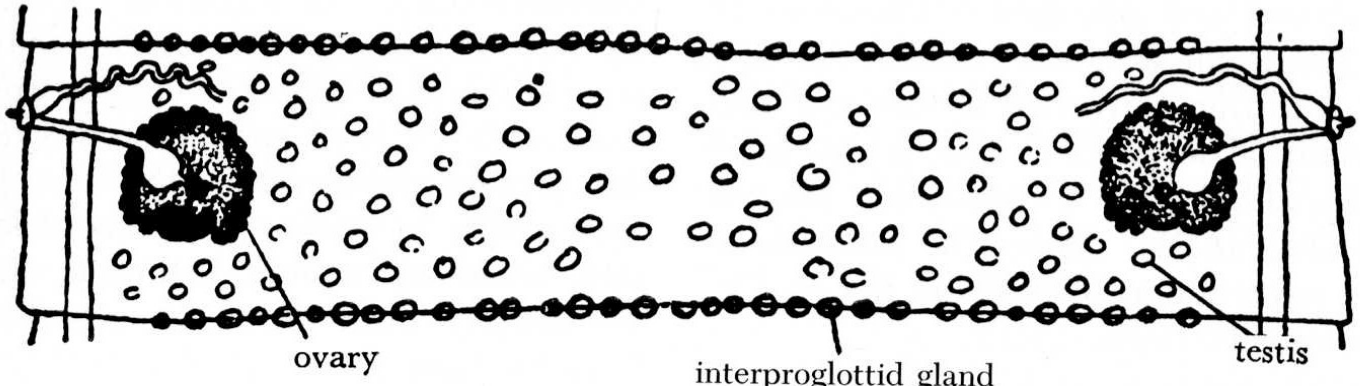


Srovnání stavby článků

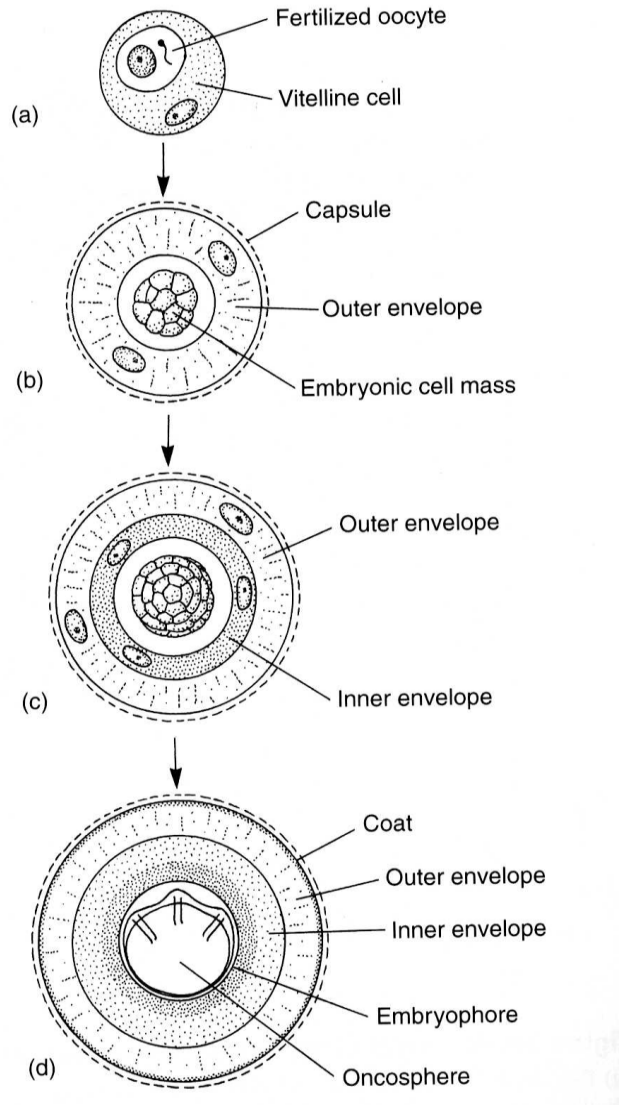


Vajíčko a článek tasemnice





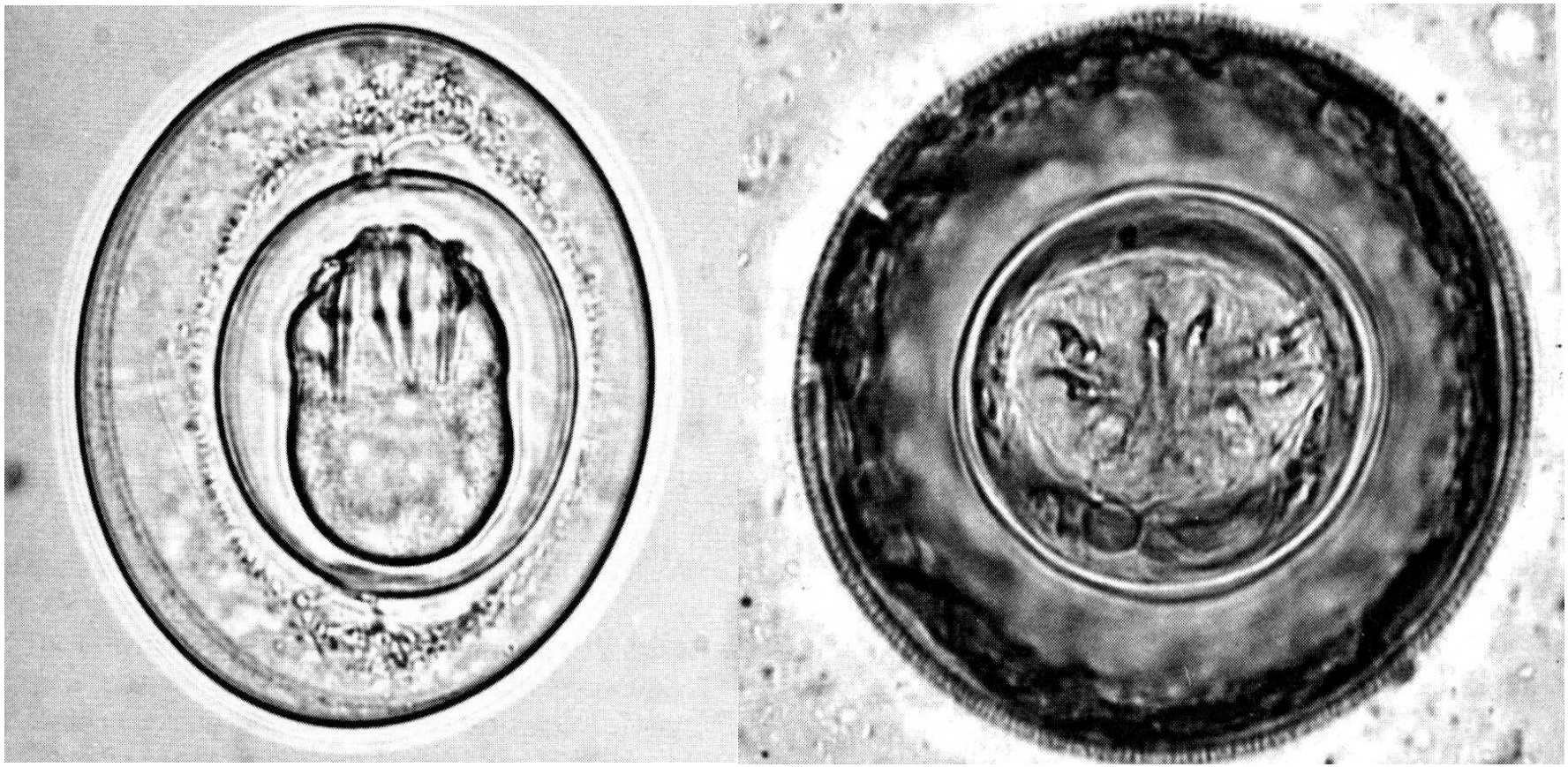
Formování embrya ve vajíčku



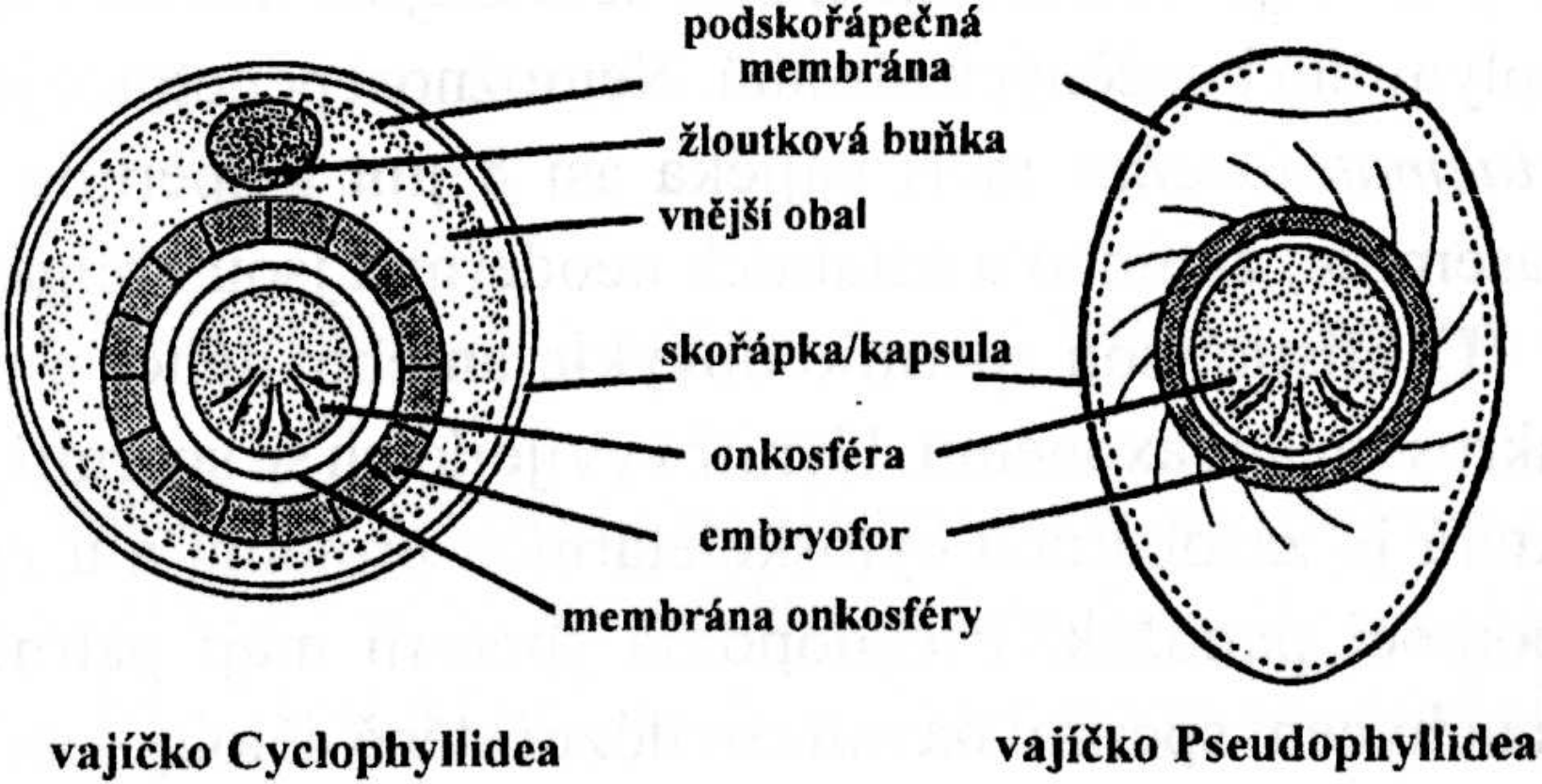
Vývojová stádia a vývoj

- Vajíčko
- Larvální stádia
- Koracidium – obrvené a plave ve vodě
- Onkosféra – v mezihostiteli
- Metacestod - larvální stádia – viz níže:
- Procerkoid, Plerocerkoid - Pseudophyllidea
- Plerocercus - Trypanorhyncha
- Cysticerkoid, Strobilocercus, Tetrathyridium – Cyclophyllidea
- Cysticercus, Coenurus, Echinococcus, Hydatida, Alveokok - Taeniidae

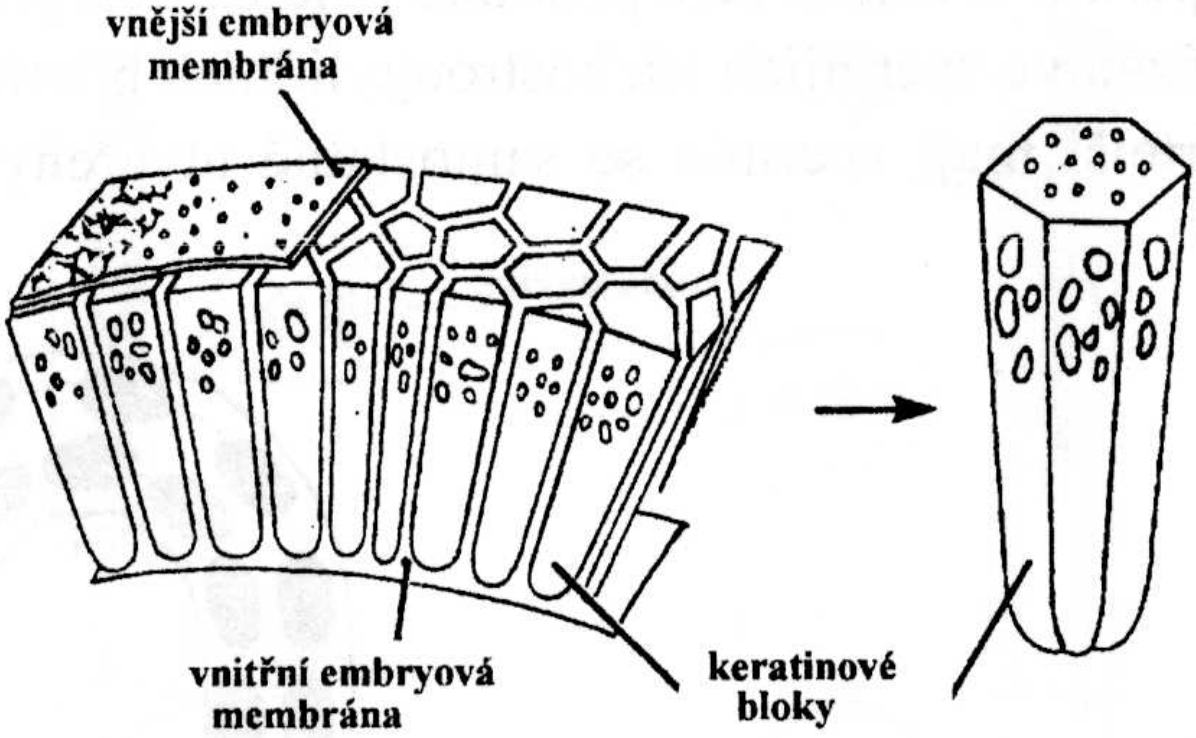
Vajíčka tasemnic



Vajíčka tasemnic

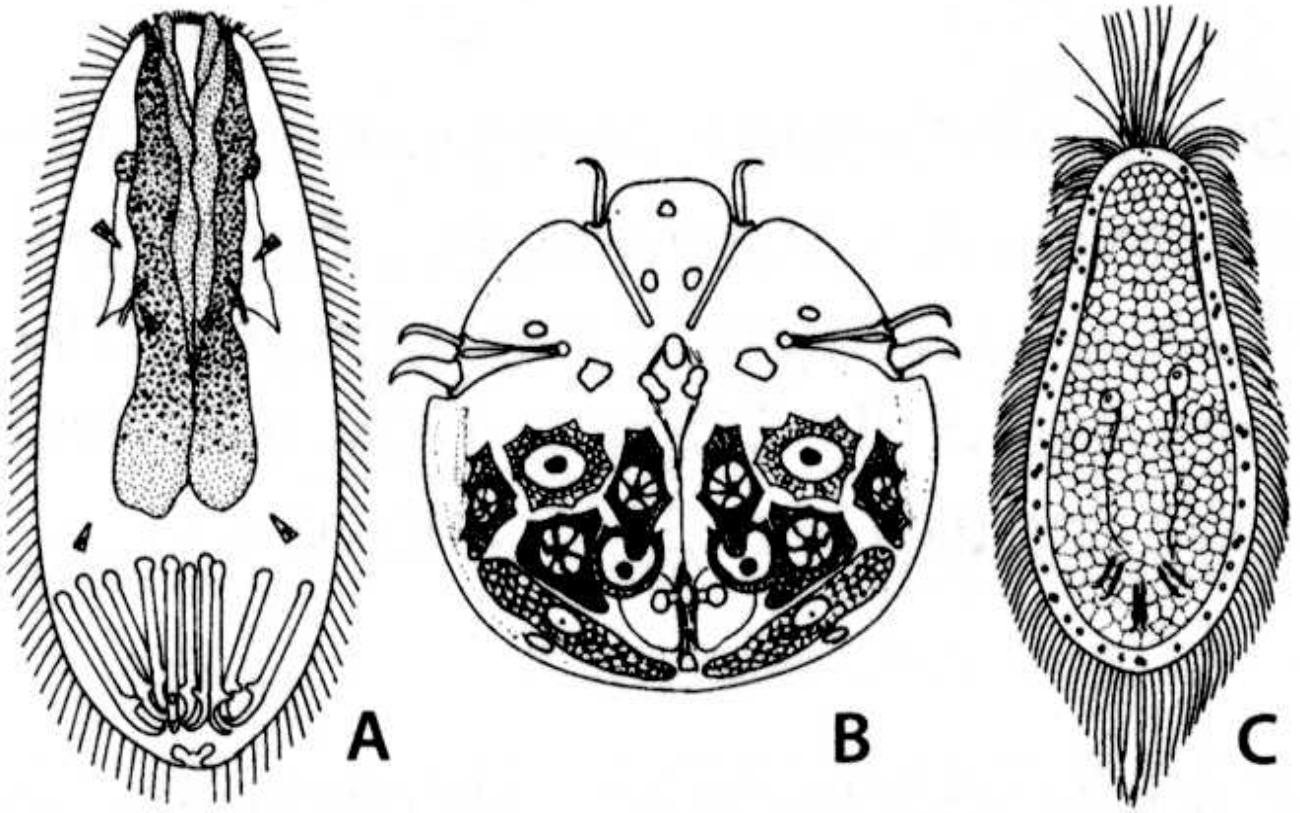


Stěna vajíčka - embryofor



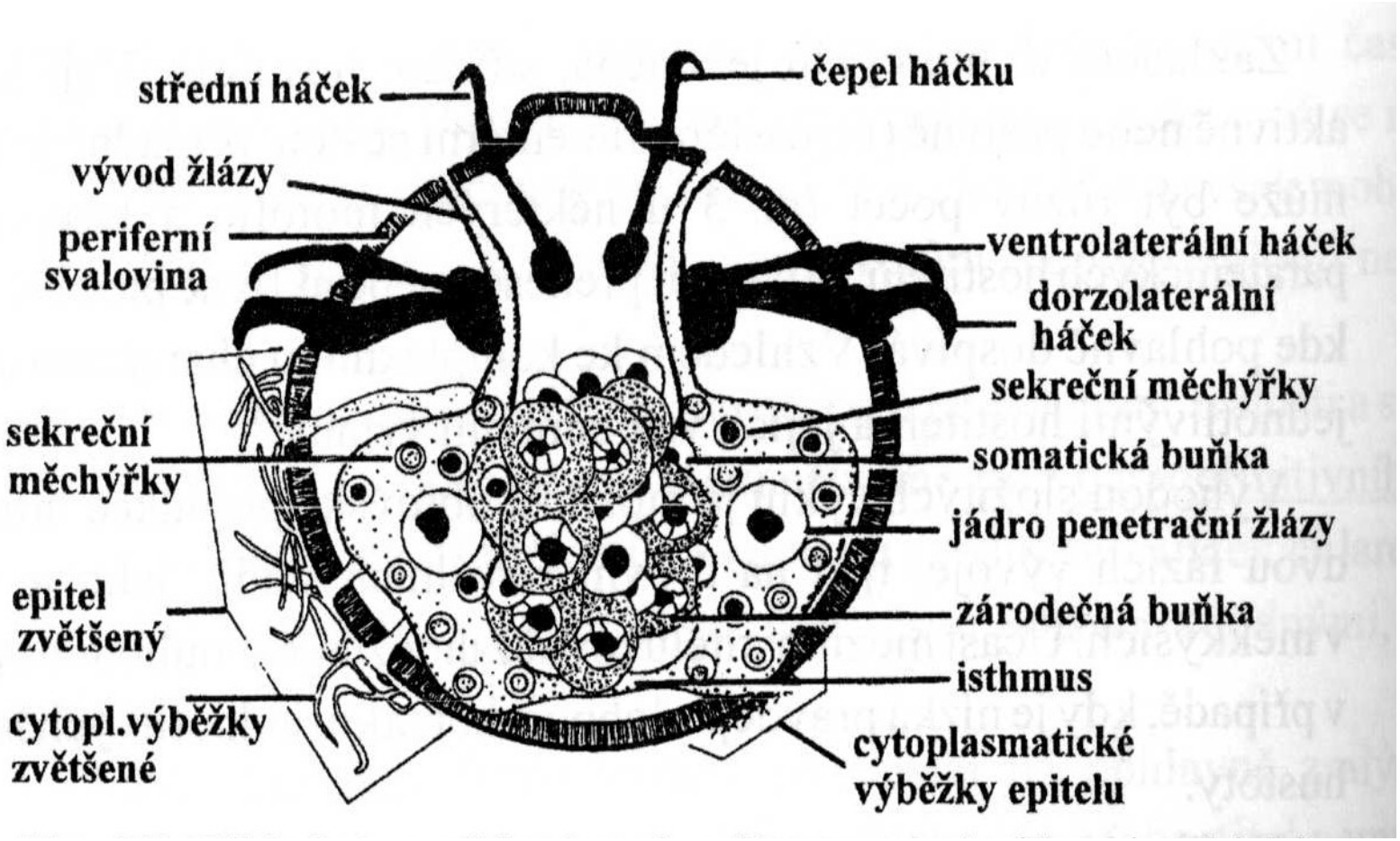
embryofor Taenia solium

Larválním stádia tasemnic

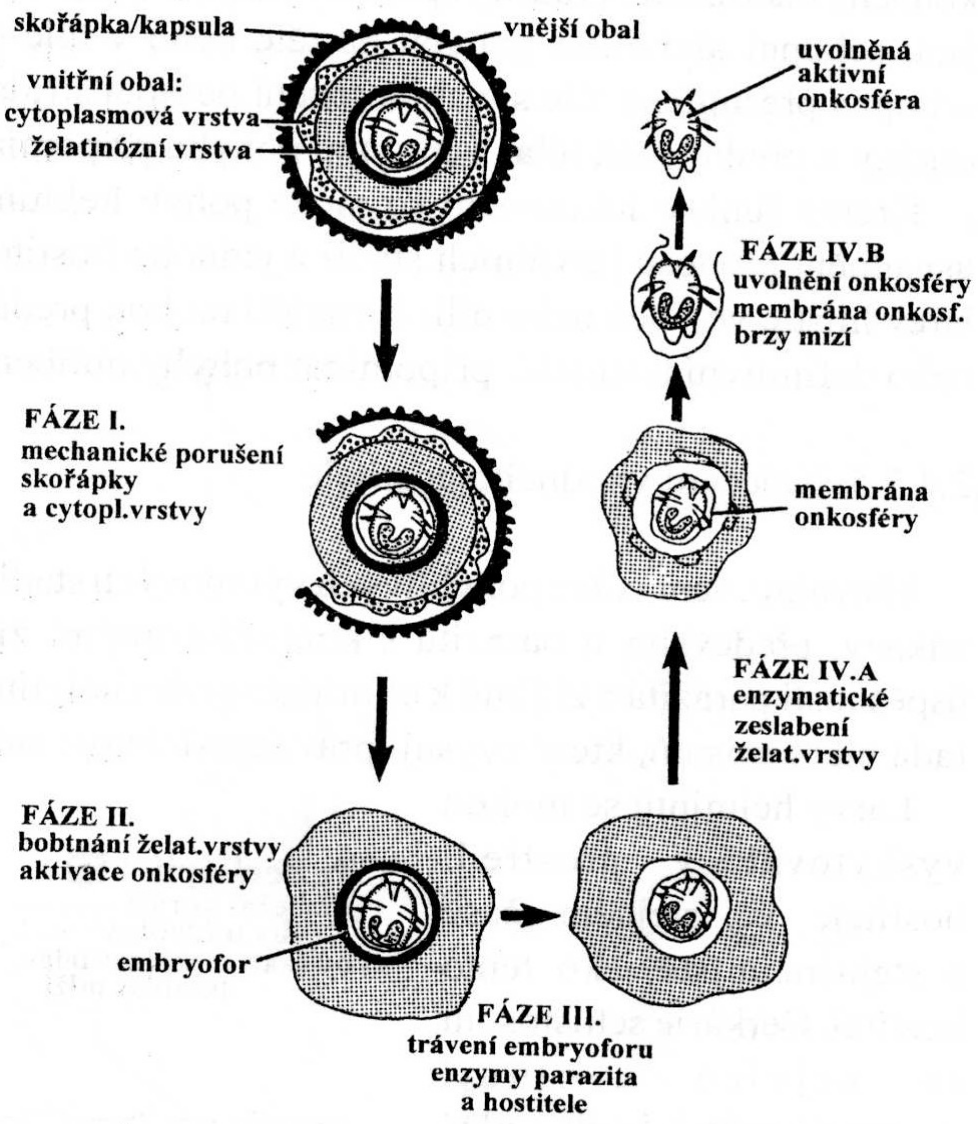


lycophora (A) **oncosphera (B)** **coracidium (C)**

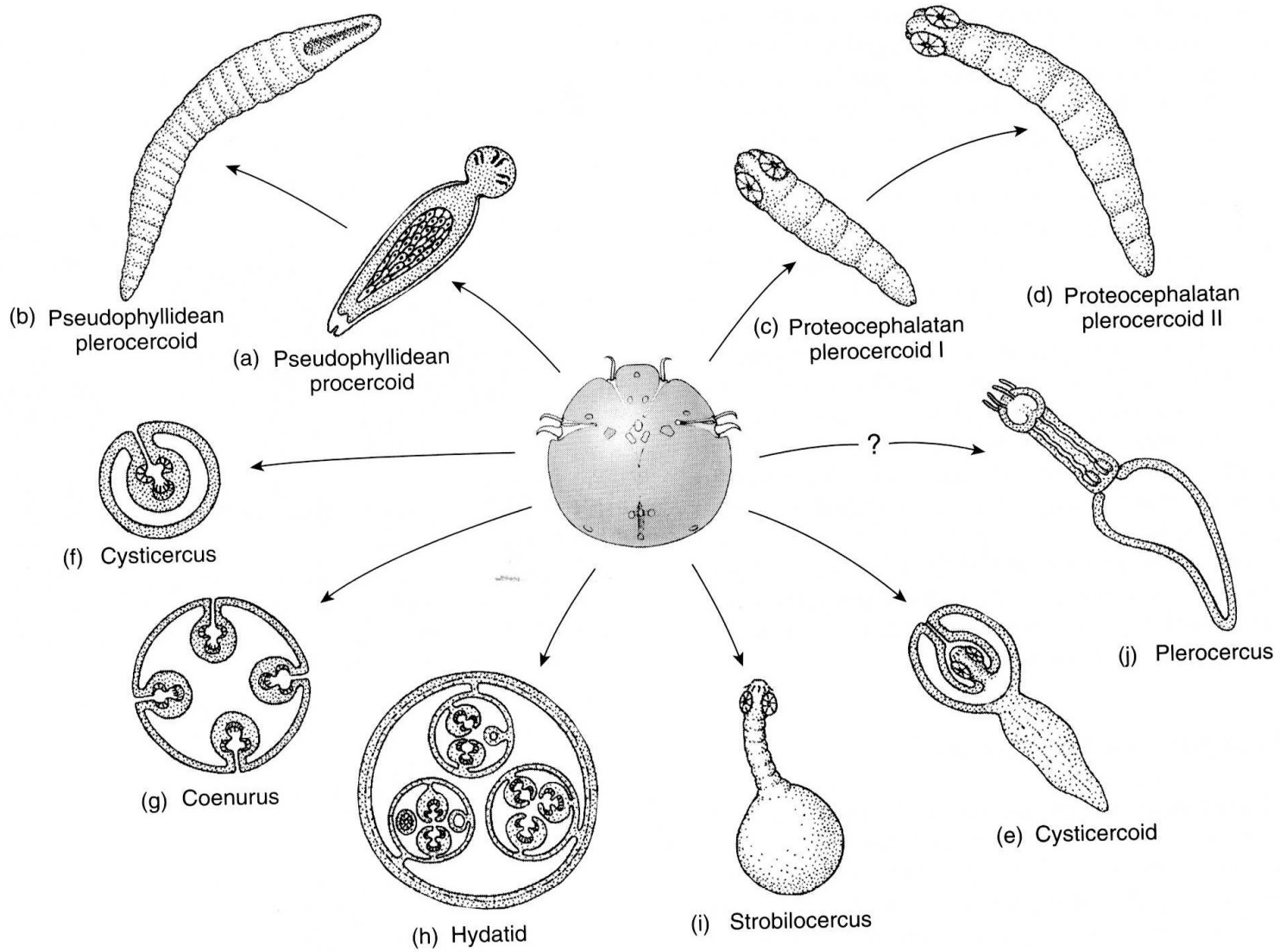
Anatomie onkosféry



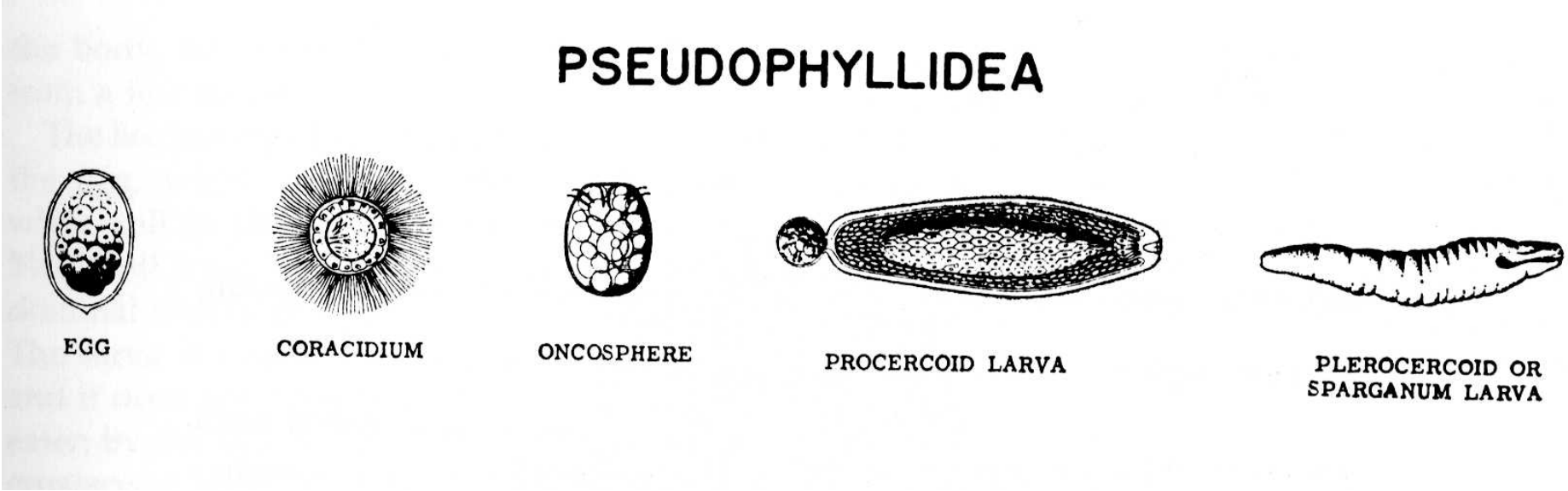
Stádia líhnutí onkosféry



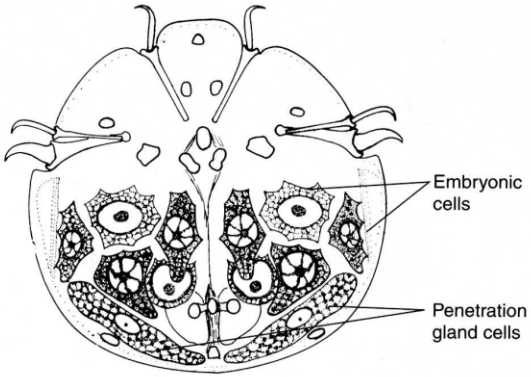
Základní typy metacestodů

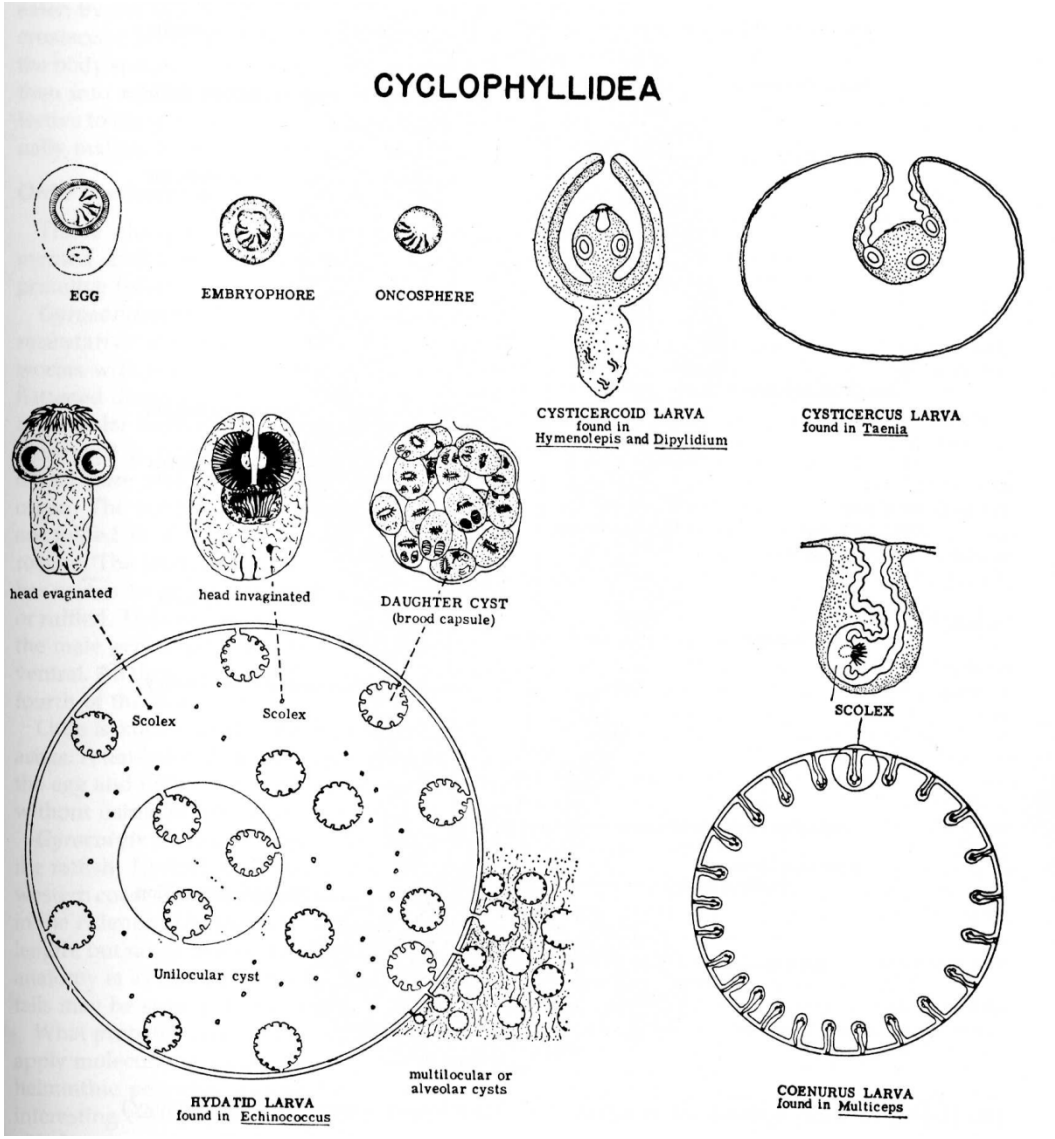


Larvální stádia – akvatický cyklus

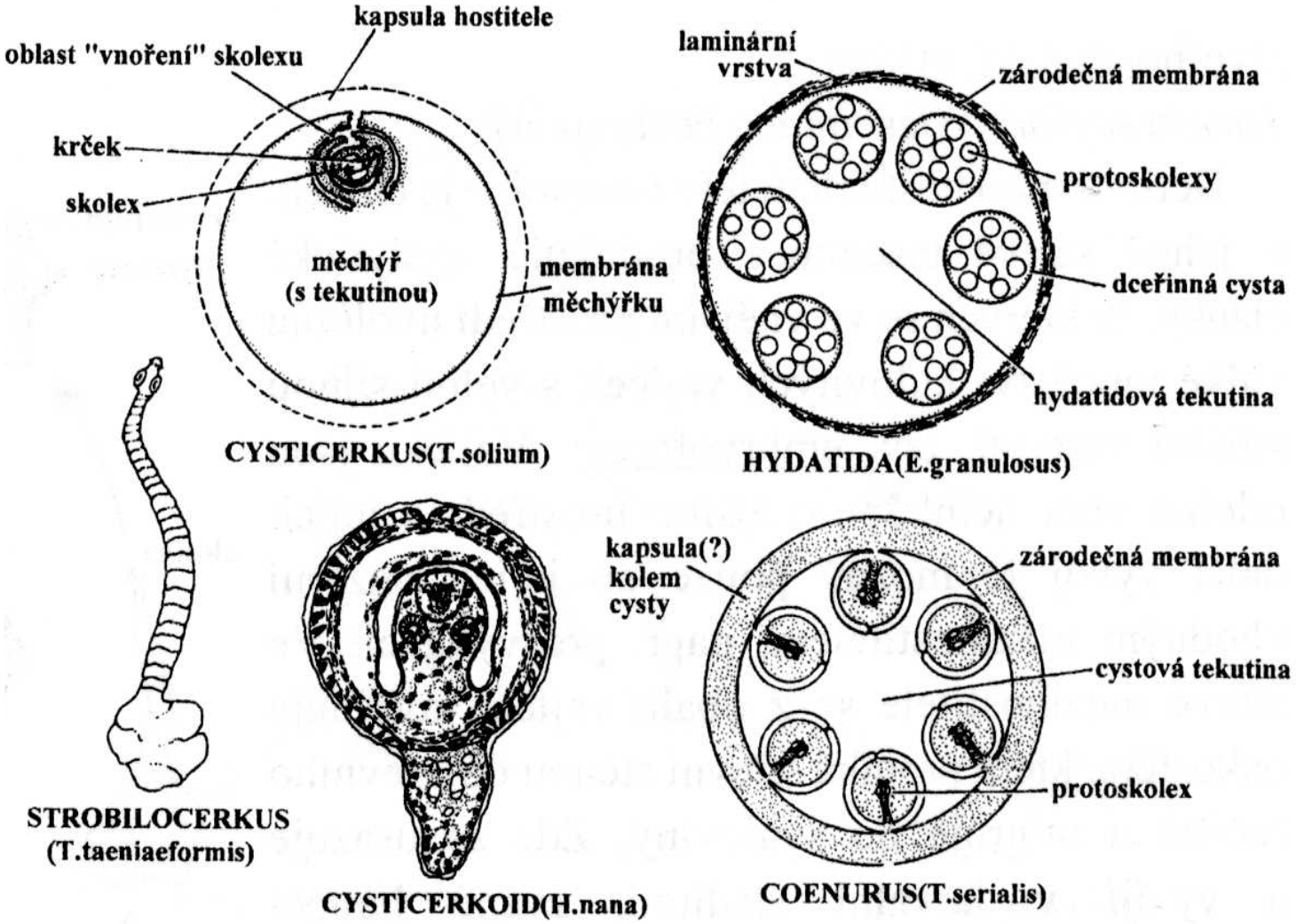


Larválním stadia – terestrický cyklus

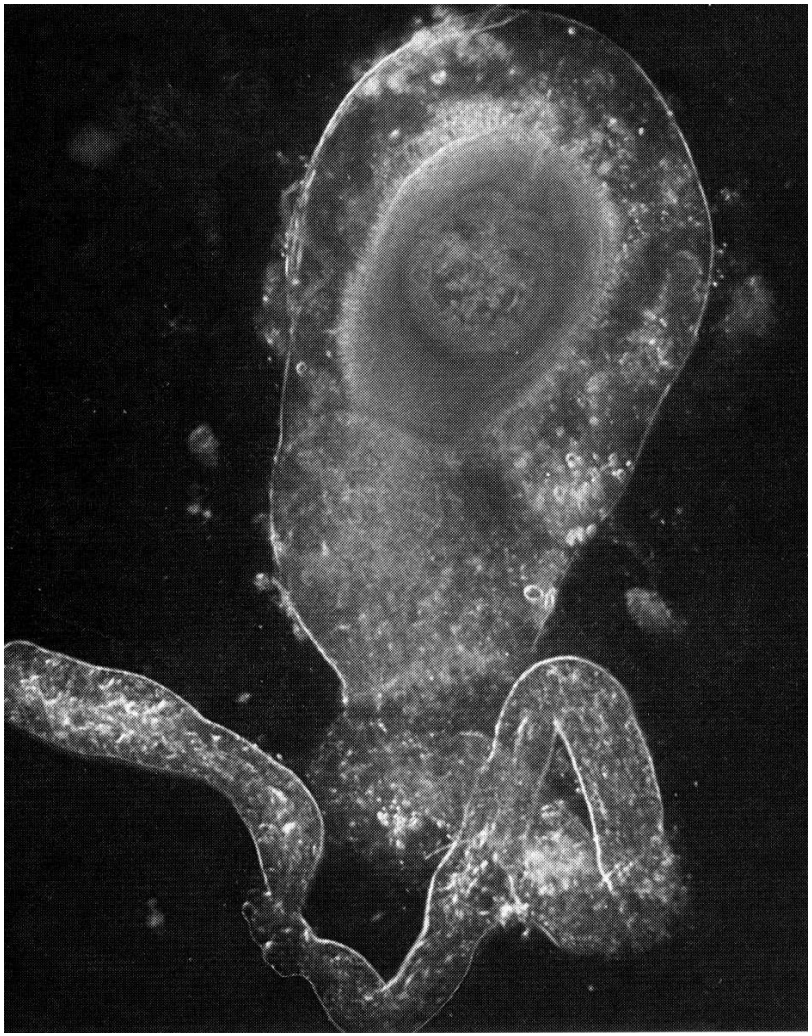


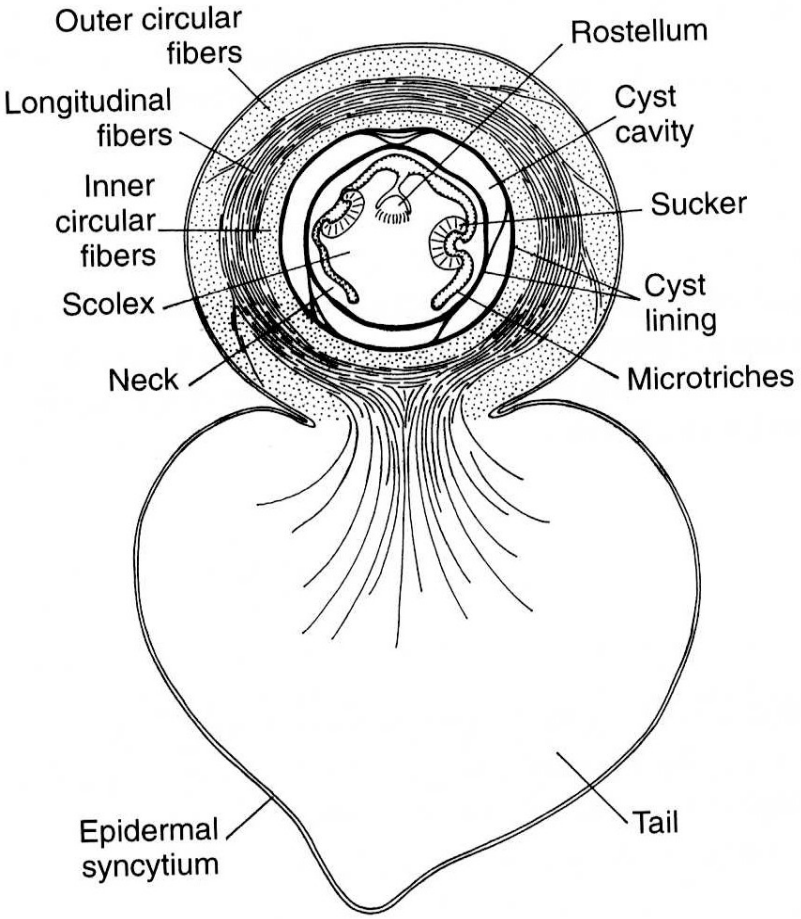


Cystická larvální stádia



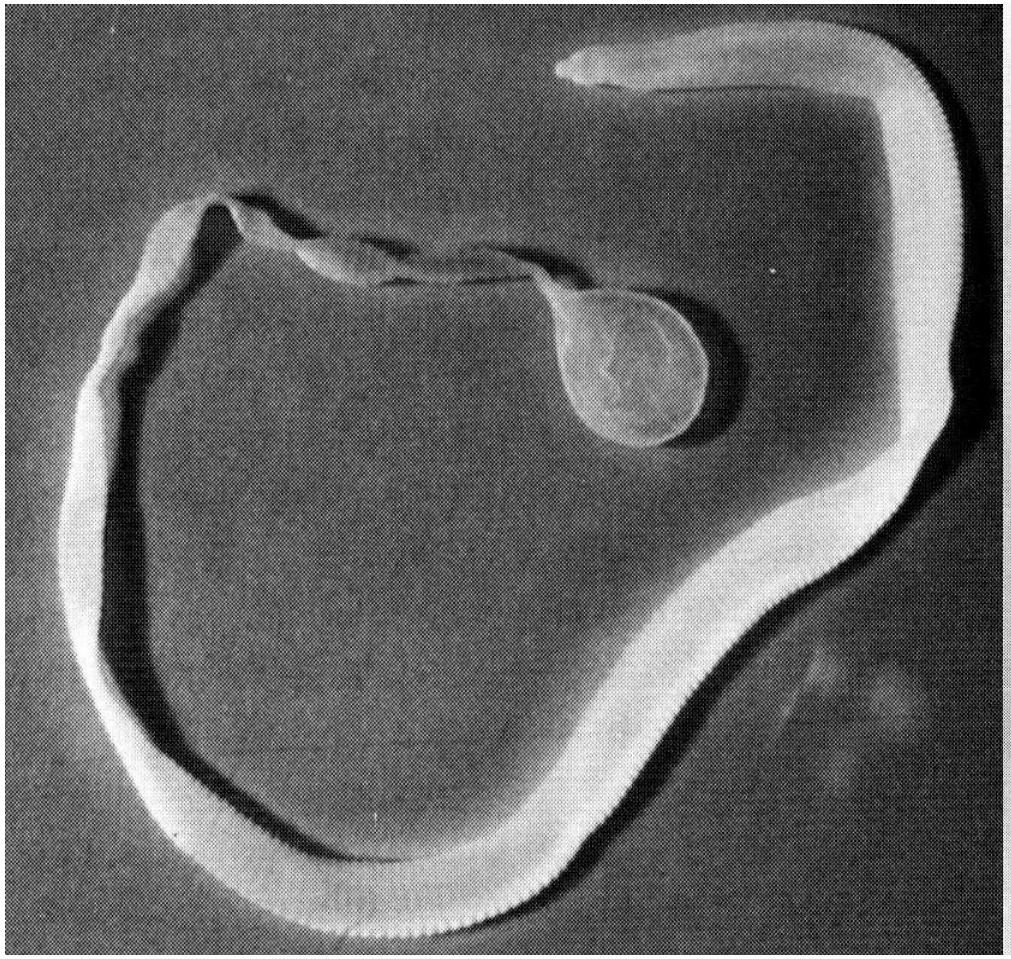
Typy metacestodů – cysticerkoid



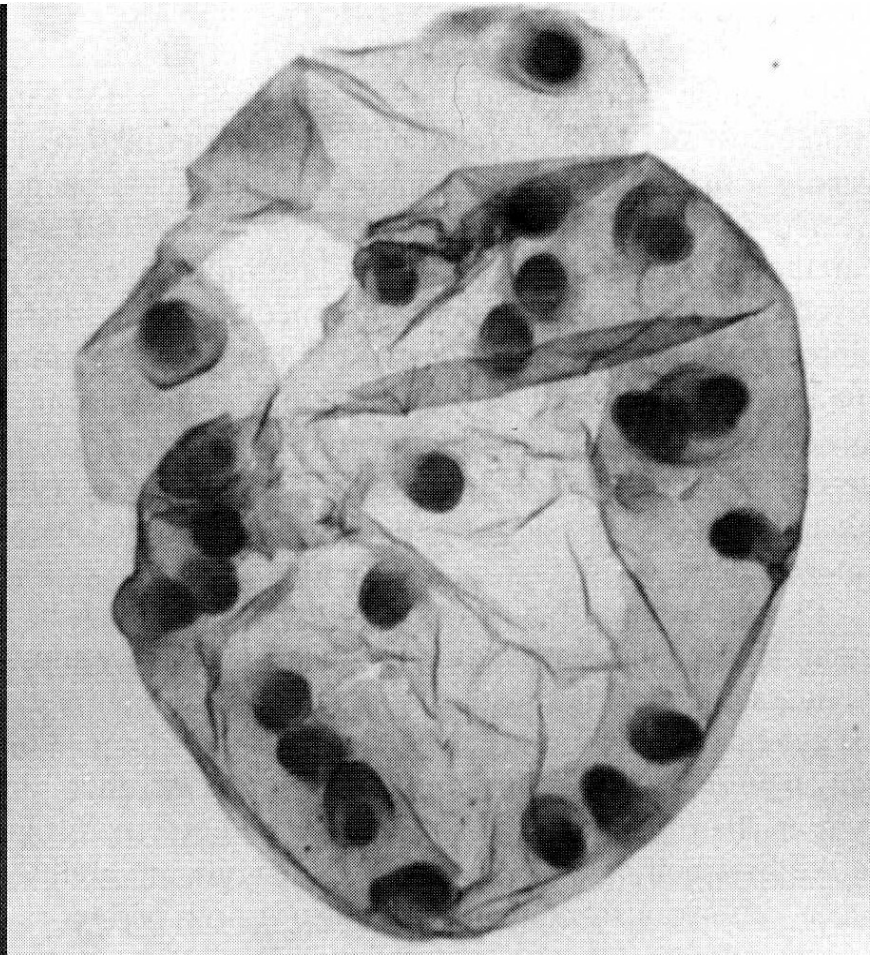


Typy metacestodů

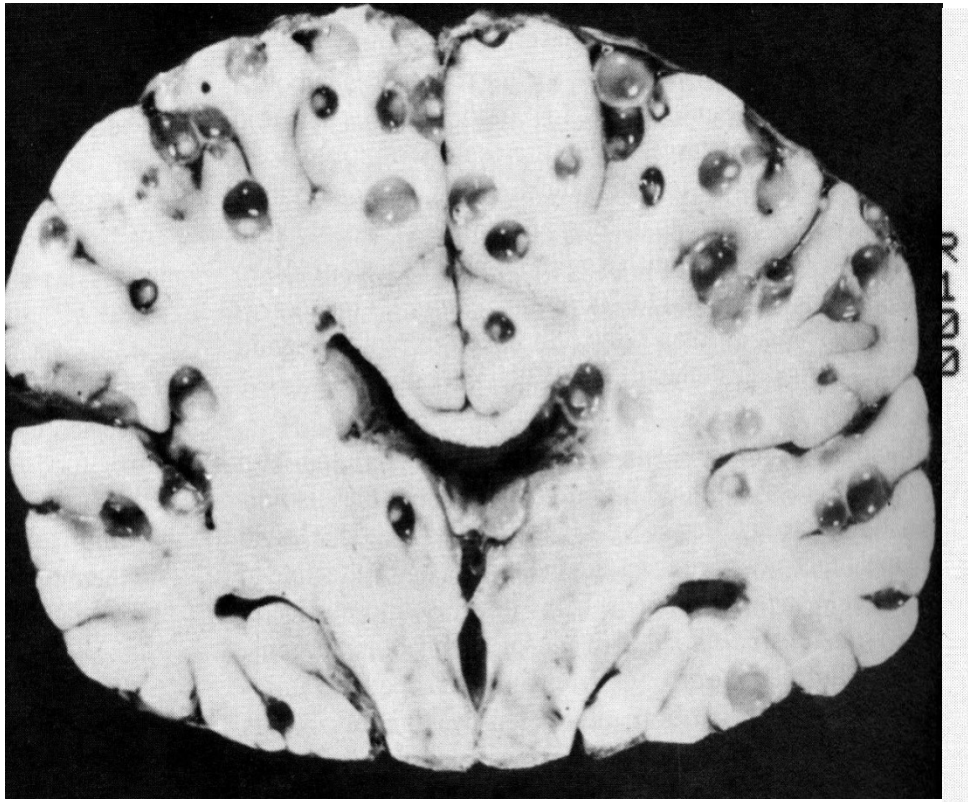
Strobilocercus

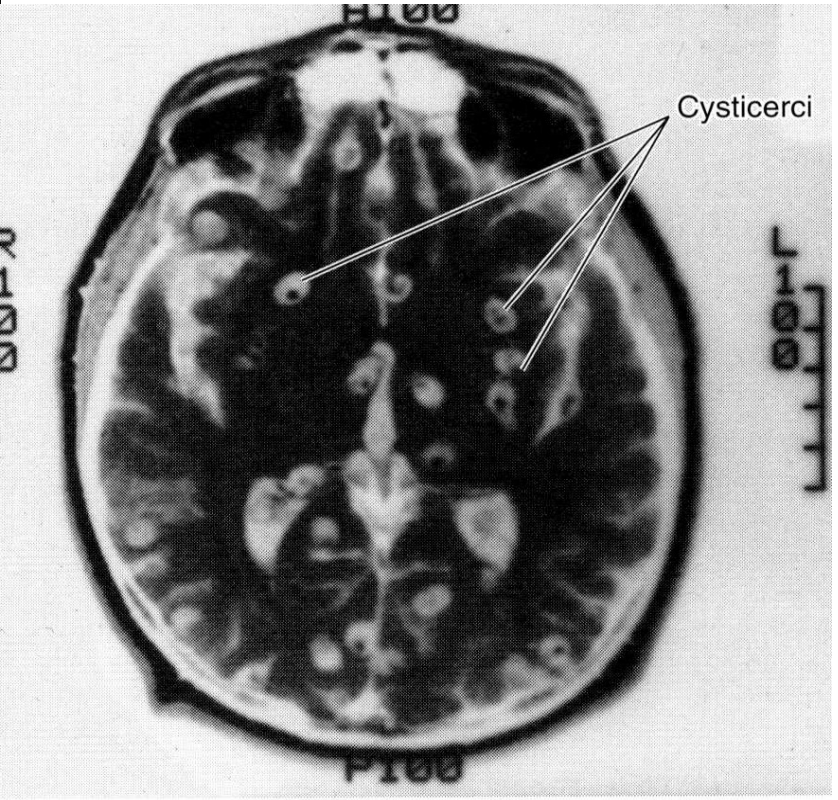


Coenurus

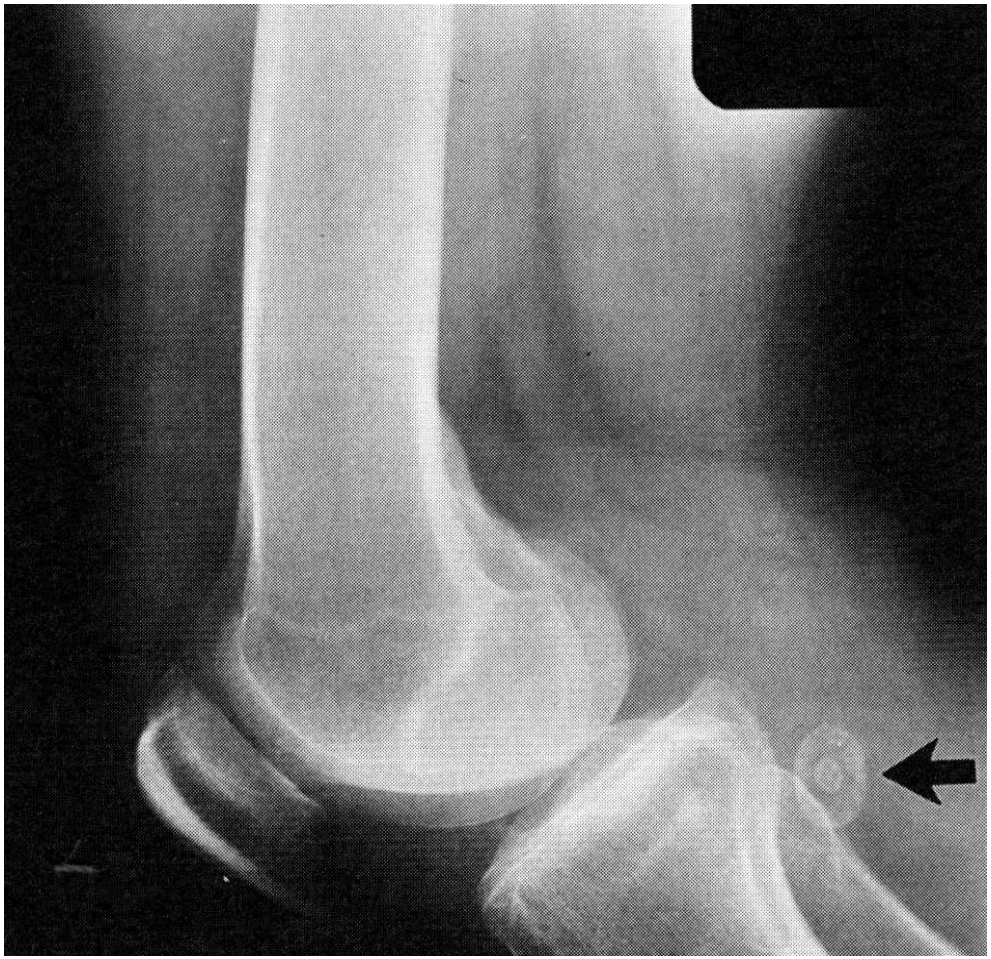


Typy metacestodů – cysticercus

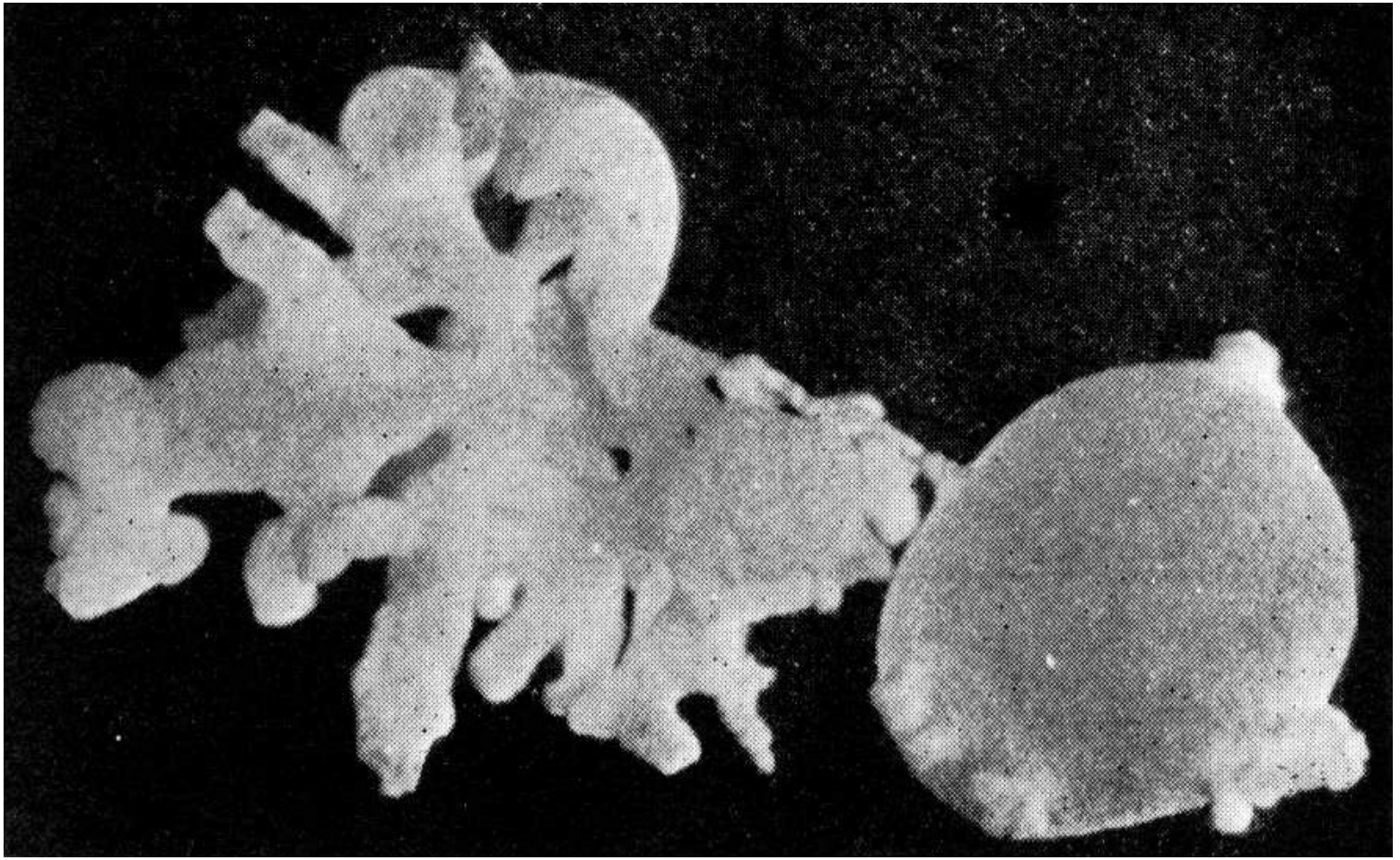




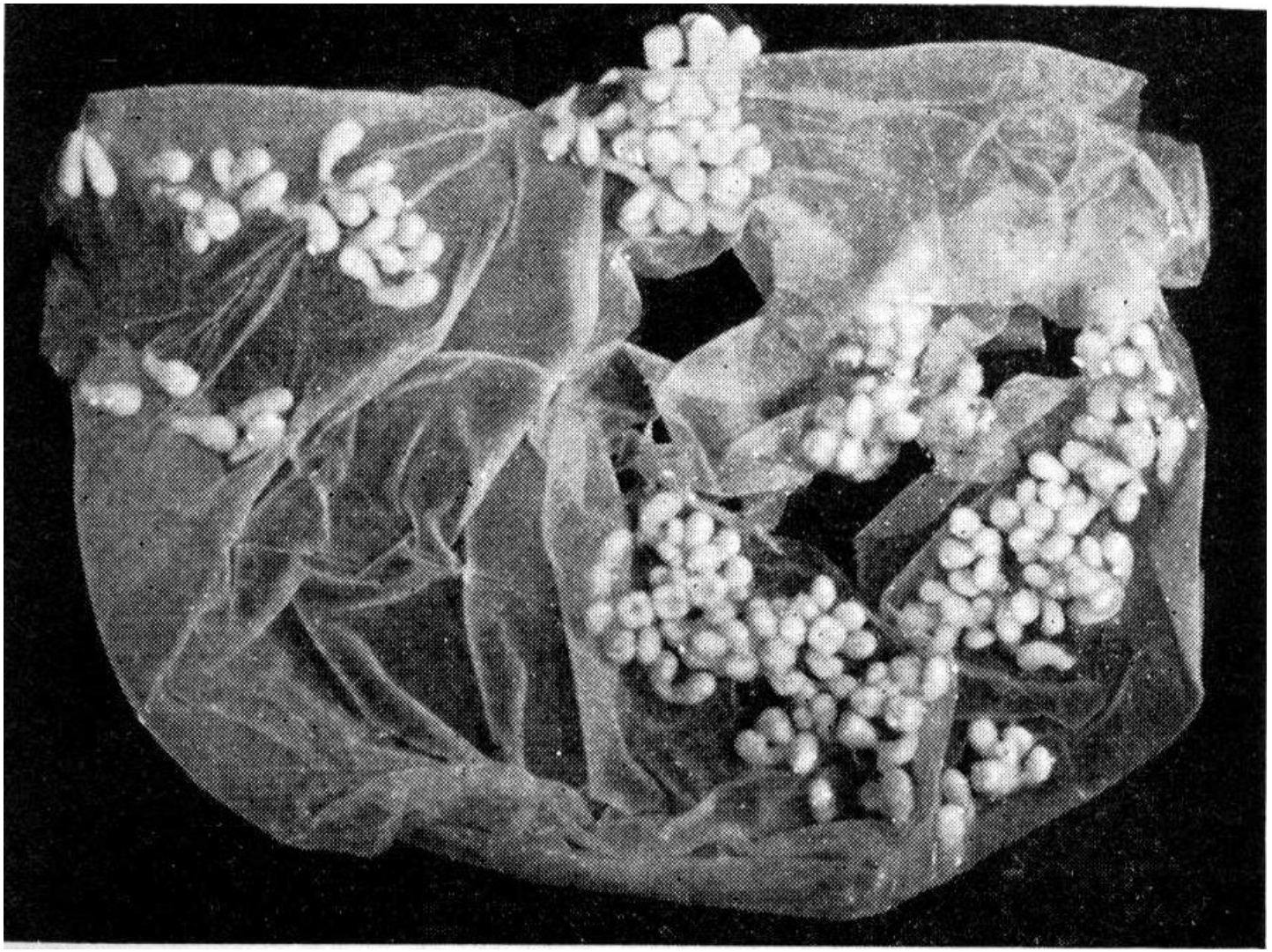
Typy metacestodů - cysticercus



Alveolární cystické stadium



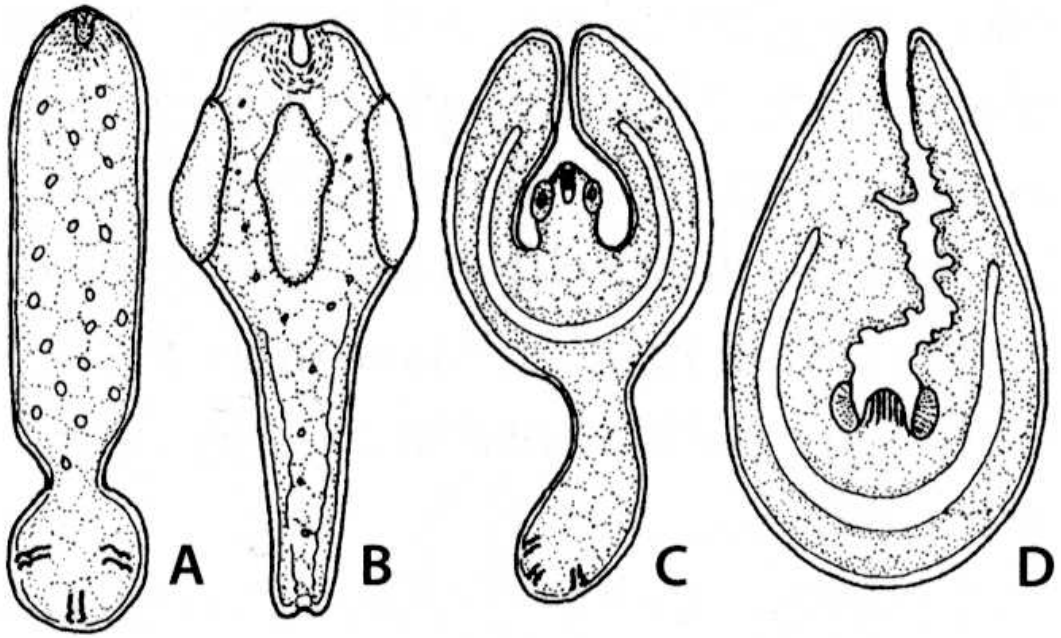
Coenurus – cystické stadium



Typy vývojových cyklů

- **Jednohostitelský** – monoxenní – Archigetes sieboldi
- **Dvojhostitelské** - dixenní – Taenia saginata
- **Trojhostitelské** – trixenní – Hymenolepis nana
- **Čtyřhostitelské** – tetraxenní – Diphyllobothrium latum

Larválním stadia - metacestod



Obr. 3–38 Cestoda. Některá další larvální stadia tasemnic – metacestodi. A – procerkoid, **B** – plerocerkoid, **C** – cysticerkoid, **D** – cysticerkus (dle Chervy, 2002, upraveno).

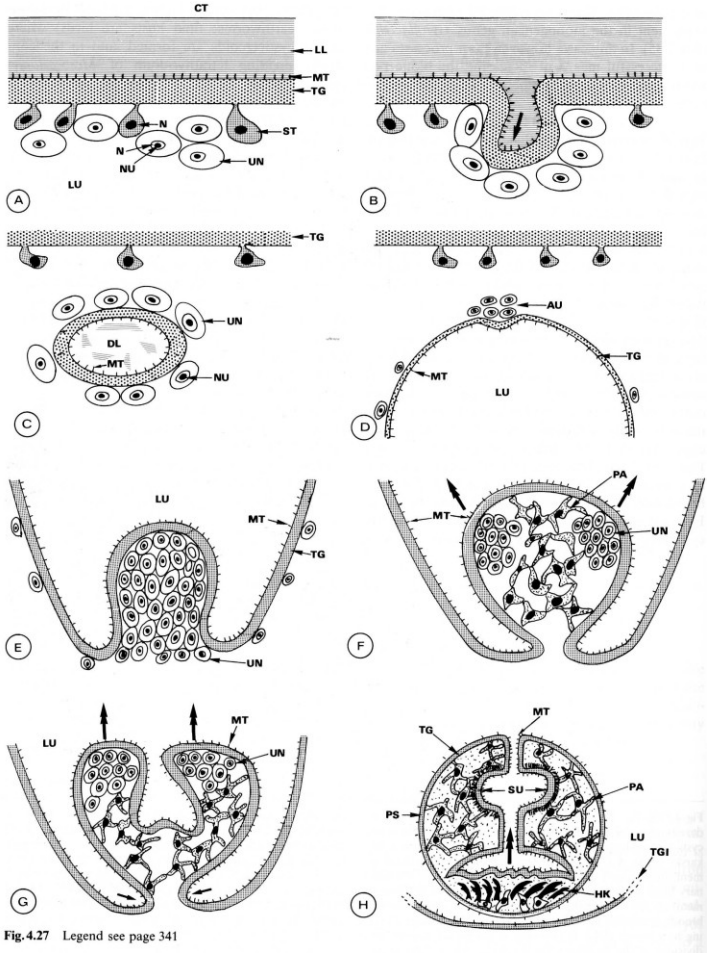
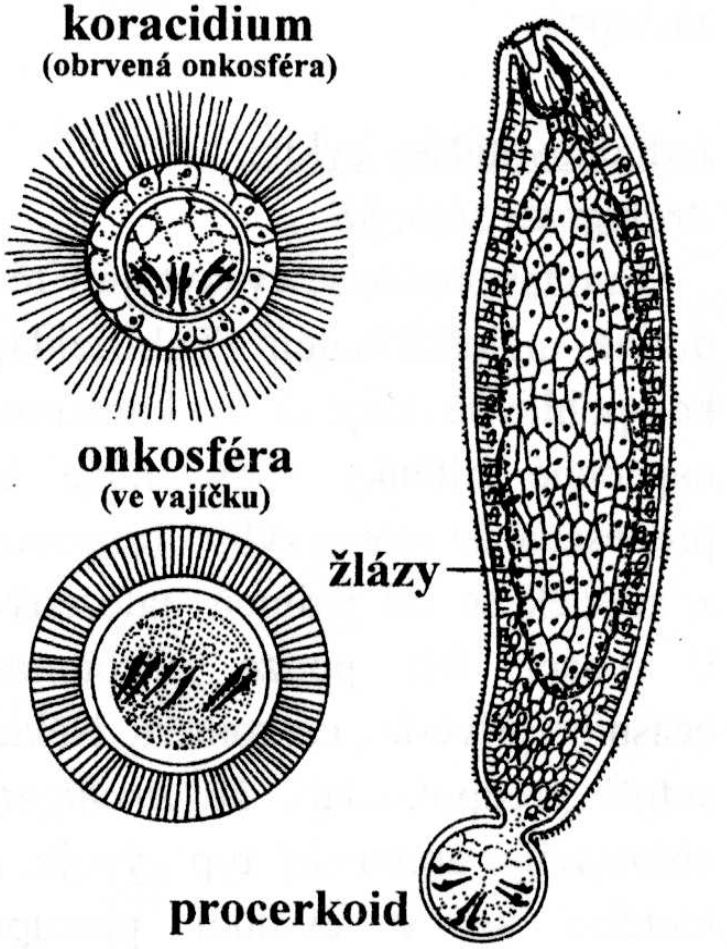
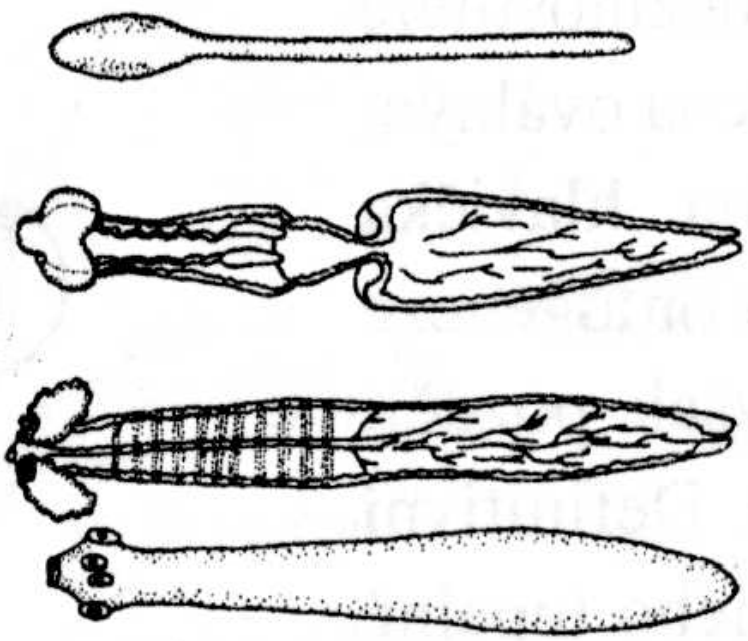


Fig. 4.27 Legend see page 341


koracidium
(obrvená onkosféra)
onkosféra
(ve vajíčku)
žlázy
procerkoid



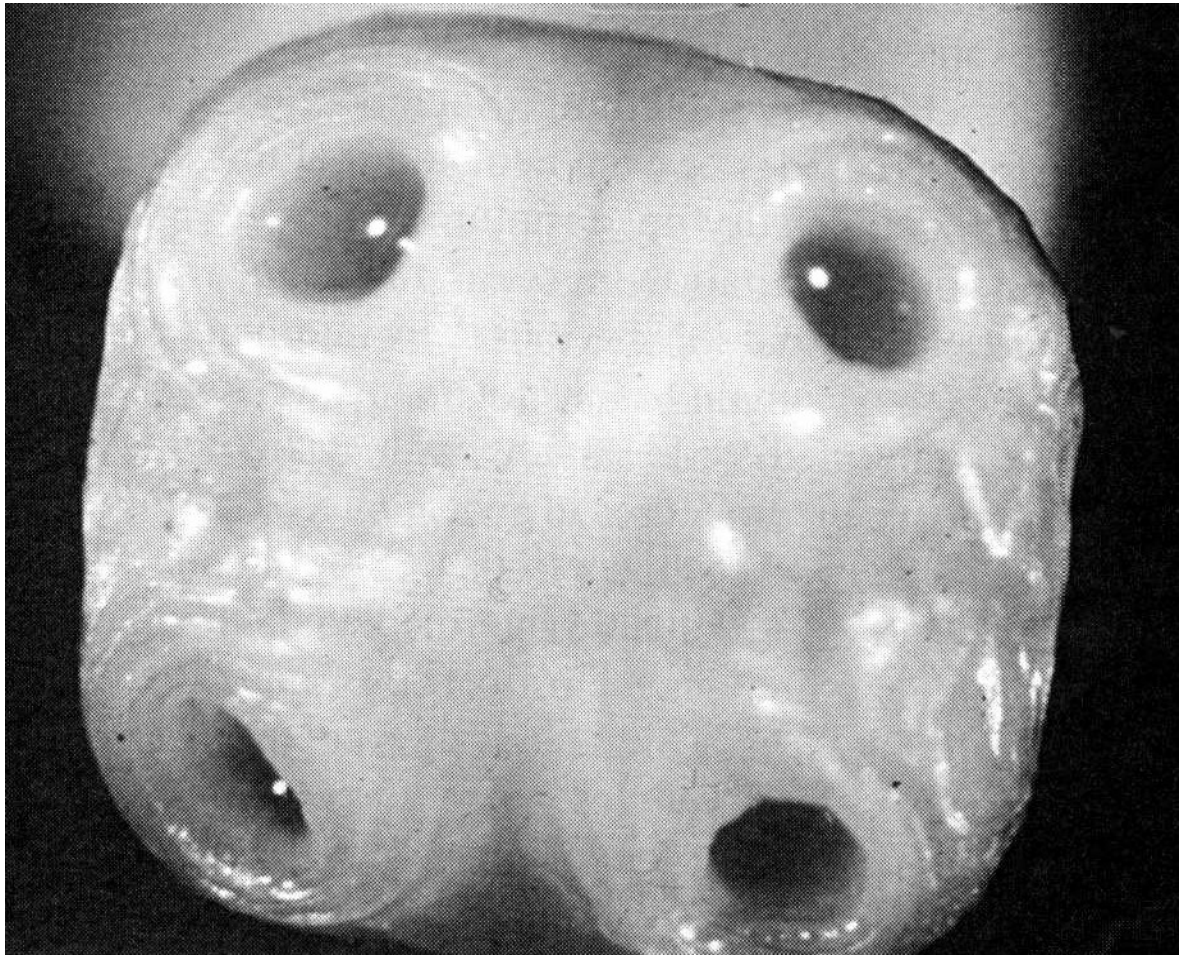
Pseudophyllidea
(sparganum)

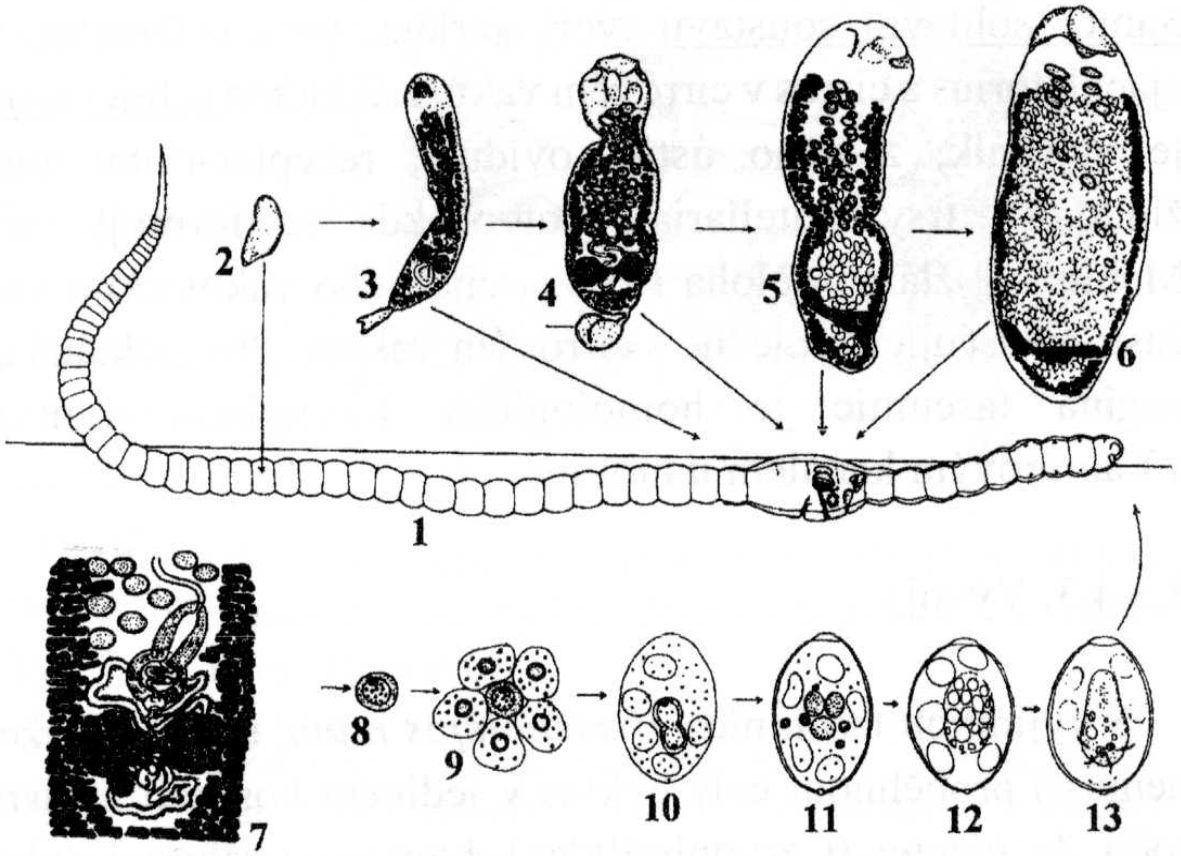
Trypanorhyncha

Tetraphyllidea

Cyclophyllidea
(rod Paruterina)

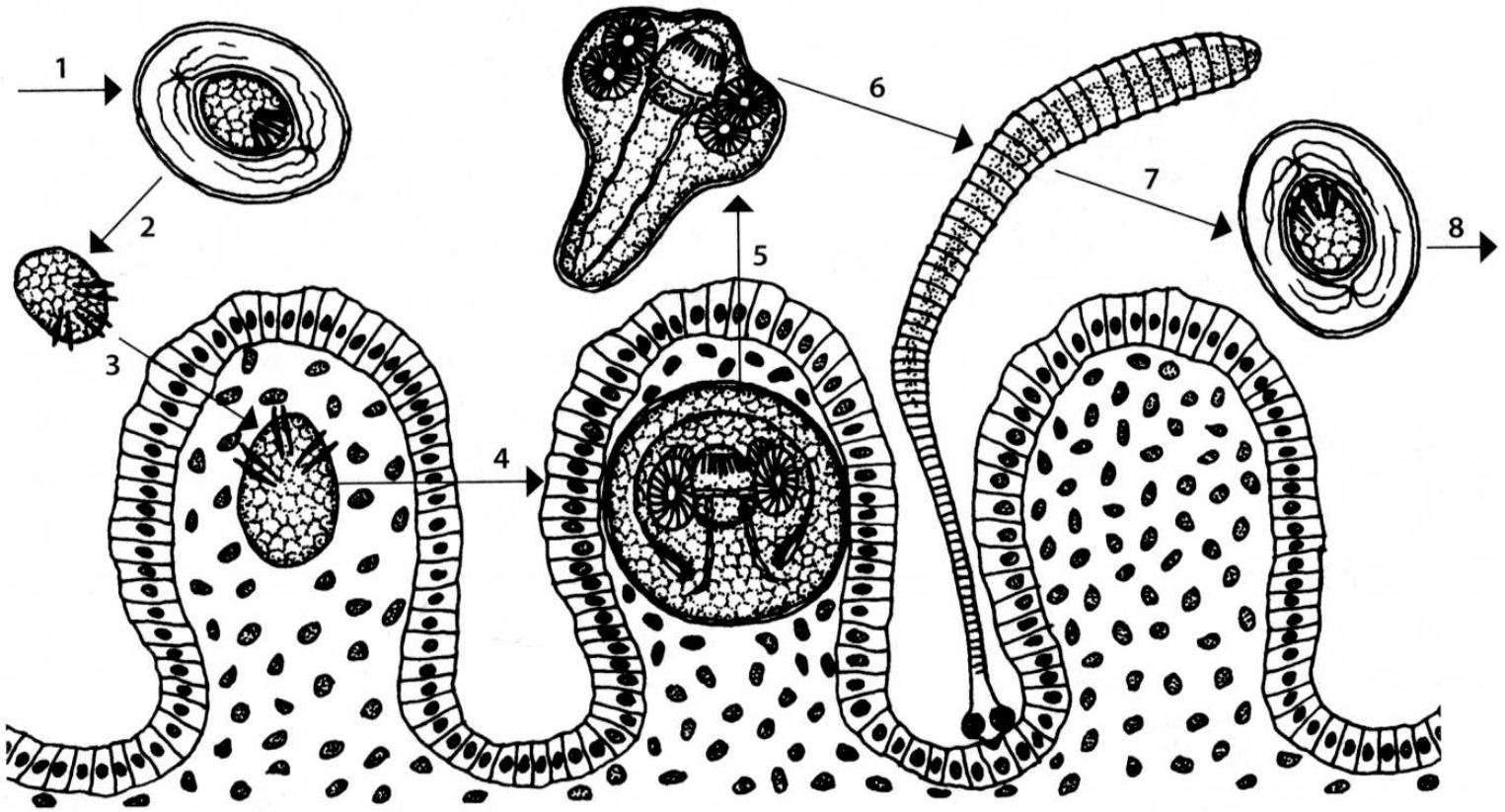
PLEROCERKOIDY



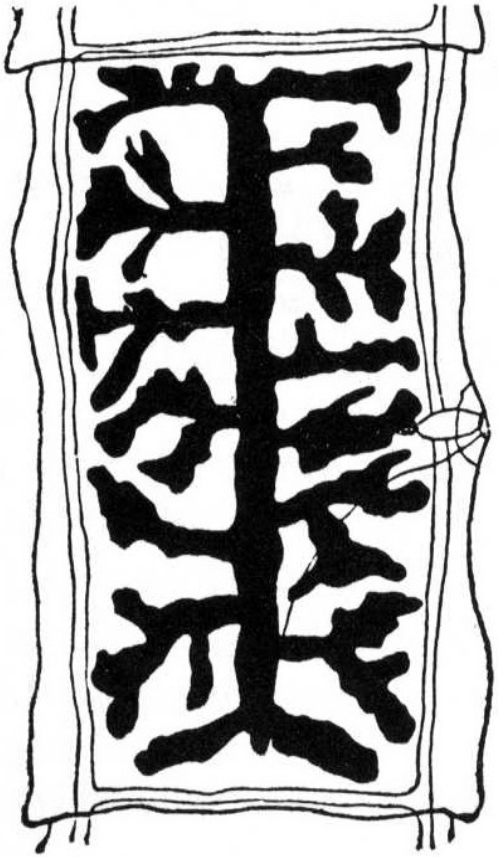


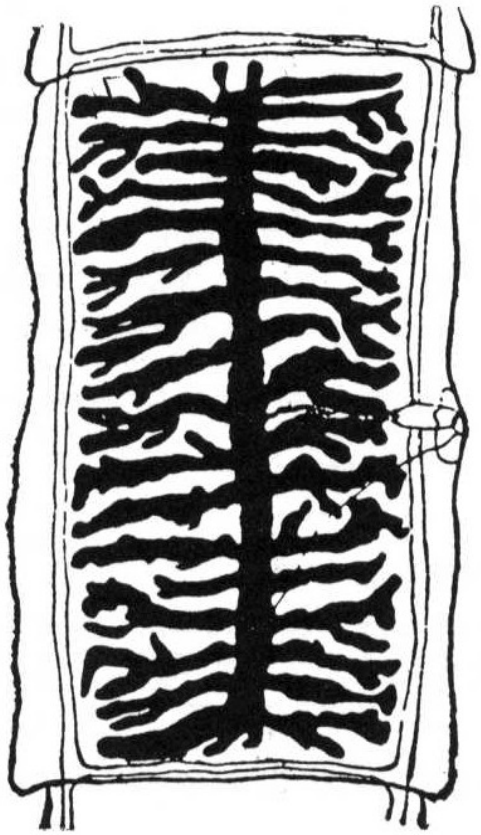
Obr. 61. Příklad jednohostitelského cyklu - *Archigetes limnodrili*

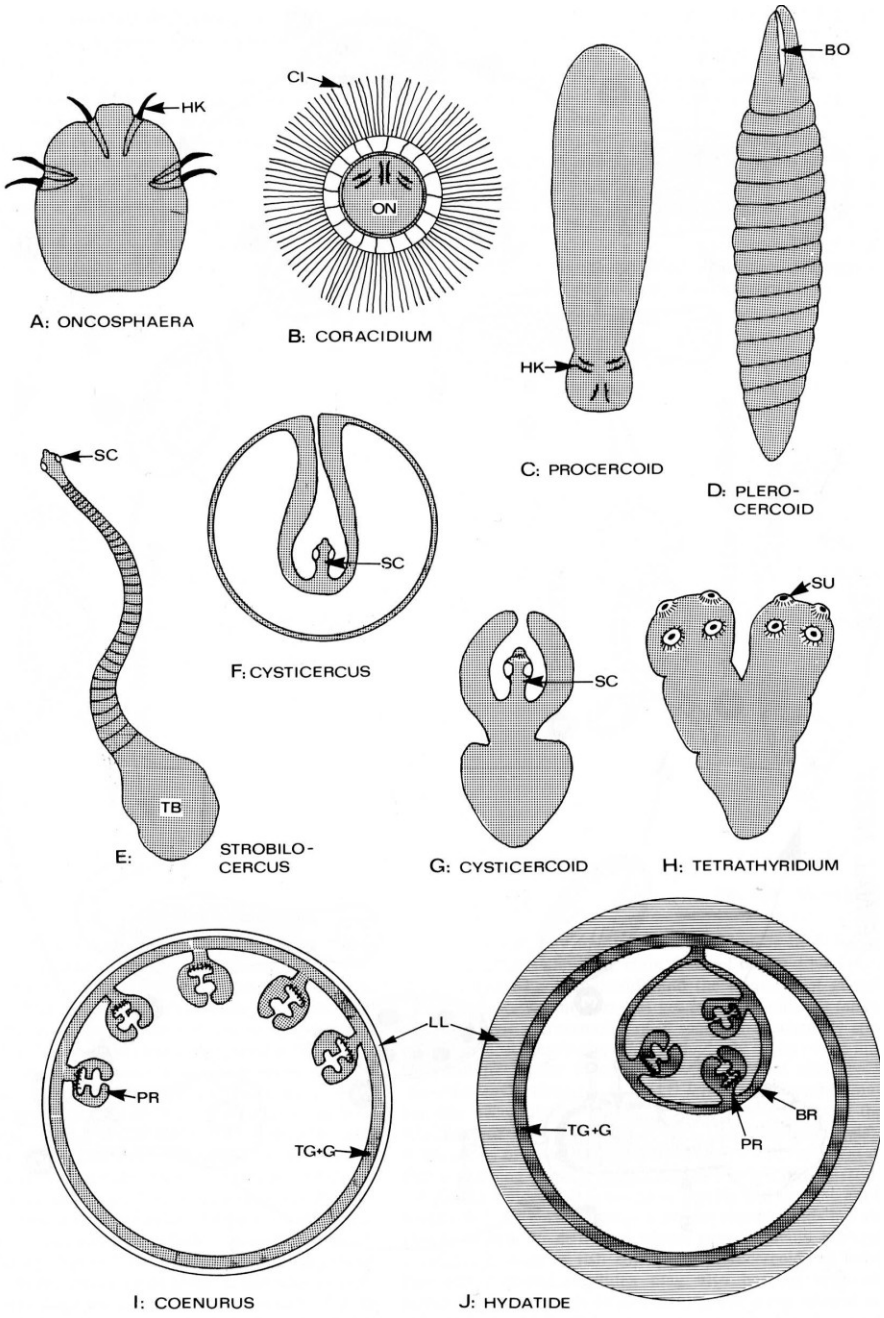
- Eggs of *Hymenolepis nana* are immediately infective when passed with the stool and cannot survive more than 10 days in the external environment . When eggs are ingested by an arthropod intermediate host (various species of beetles and fleas may serve as intermediate hosts), they develop into cysticercoids, which can infect humans or rodents upon ingestion and develop into adults in the small intestine. A morphologically identical variant, *H. nana* var. *fraterna*, infects rodents and uses arthropods as intermediate hosts. When eggs are ingested (in contaminated food or water or from hands contaminated with feces), the oncospheres contained in the eggs are released. The oncospheres (hexacanth larvae) penetrate the intestinal villus and develop into cysticercoid larvae . Upon rupture of the villus, the cysticercoids return to the intestinal lumen, evaginate their scoleces , attach to the intestinal mucosa and develop into adults that reside in the ileal portion of the small intestine producing gravid proglottids . Eggs are passed in the stool when released from proglottids through its genital atrium or when proglottids disintegrate in the small intestine . An alternate mode of infection consists of internal autoinfection, where the eggs release their hexacanth embryo, which penetrates the villus continuing the infective cycle without passage through the external environment . The life span of adult worms is 4 to 6 weeks, but internal autoinfection allows the infection to persist for years.



Obr. 3–42 Cestoda, Cyclophyllidea, Hymenolepididae, *Hymenolepis nana*. Zkrácená






HK
A: ONCOSPHAERA
CI
ON
B: CORACIDIUM
HK
C: PROCERCOID
BO
D: PLERO-
CERCOID
SC
TB
E:
STROBILO-
CERCUS
SC
F: CYSTICERCUS
SC
G: CYSTICERCOID
SU
H: TETRATHYRIDIUM
PR
TG+G
I: COENURUS
LL
TG+G
PR
BR
J: HYDATIDE